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National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JULY 12, 1879.

[No. 2.]

CIRCULAR No. 5.

NATIONAL BOARD OF HEALTH,
Washington, D. C., July 12, 1879.

The Executive Committee of the National Board of Health invites the attention of all State and municipal authorities and sanitary organizations to the fact that they should, without delay, endeavor to secure the best sanitary condition of the places and people under their charge.

Whatever opinions may be held as to the causes of yellow fever and of the recent appearance of that disease in Tennessee and Mississippi, it is best to act as if it were a disease due to a specific particulate cause which is capable of growth and reproduction, transportable, and may be destroyed by exposure to a temperature above 240° Fahrenheit, or by chemical disinfectants of sufficient strength if brought into immediate contact with it.

It is also prudent to assume that the growth and reproduction of this cause is connected with the presence of filth, in the sanitary sense of that word, including decaying organic matters and defective ventilation, as well as of high temperature.

The cases of yellow fever recently observed should be considered as due to causes surviving from last year's epidemic, and not to recent importation from other countries. It follows that there is a liability to the appearance of other cases in places visited by the epidemic of last year, and that there is danger of the spread of the disease to the North and the East.

In a previous circular this Board has advised as to the means which should be adopted, so far as the usual channels of transportation are concerned, to prevent the spread of the disease.

The object of the present circular is to advise that all cities, towns, and villages be at once made clean, in a sanitary point of view. The first step toward securing this cleanliness is to obtain reliable information as to what parts of the place are clean, and what foul.

The results of a careful sanitary inspection of almost any city or town will show the existence of collections of decaying and offensive matters previously unknown, and which every one will admit should be promptly removed and destroyed.

Such inspections to be of value must be thorough and made by persons competent to recognize foul soils, waters, and air as well as the grosser and more palpable forms of nuisance.

They should also be made by persons who will report fully and frankly the results of their observations without reference to the wishes of persons or corporations.

When the whereabouts and the extent of the evil are known the remedy is usually almost self-evident.

The National Board of Health will furnish, upon request, blank forms as a guide for such inspections.

NOTES FROM MINUTES OF EXECUTIVE COMMITTEE.

The following rules are to be observed by consuls, consular agents, and others in sending cable telegrams to the National Board of Health: In conformity to Rule 19 of "Rules and regulations for securing the best sanitary condition of vessels coming to the United States from foreign ports," the following cipher and abbreviations shall be used:

"National"—meaning National Board of Health.

"Yellow"—meaning yellow fever has appeared.

"Cholera"—meaning cholera has appeared.

"Plague"—meaning plague has appeared.

"Passengers," "Baggage," or "Merchandise," as the case may be—meaning that a vessel has sailed for the United States with passengers or goods from an infected district (though the vessel herself may be from a healthy port).

The name of country—meaning that the disease named has appeared at several places in said country.

The name of vessel—meaning that such vessel has sailed for the United States from the port whence the dispatch is sent.

Directions.—In the body of the dispatch the name of the vessel should be given *first*; the name of the country *second*, when it is necessary (*i. e.*, if at other places in the country than at the port from which the dispatch is sent); the day of departure *third* (omitting month and year); the name of the port of destination *fourth* (this order is necessary to prevent confusing names of vessels with those of United States ports); the name of the diseases "cholera," "yellow," or "plague," as the case may be, *fifth*; how carried *sixth*; from what town or place *seventh*. This last will only be required once, unless the disease appears in adjacent ports, when the name of such port should appear in its proper order.

All vessels will be understood to be steamers, unless otherwise stated in dispatch.

The last name only will be signed to all dispatches.

EXAMPLES.

(1.) *Ghent, National, Washington, Cholera, thirtieth, LEVEHVEE,* would be understood to mean that on 30th of June, 1879, cholera appeared at Ghent. If after the word "cholera" the word "Belgium" were inserted, the dispatch would mean that cholera has made its appearance at several places in Belgium.

(2.) *Havana, National, Washington, Ship, "Maggie," thirtieth, Savannah, HALL,* would be understood to mean that the ship "Maggie" left the yellow fever infected port of Havana, on June 30, 1879, bound for Savannah, Georgia.

(3.) *Liverpool, National, Washington, "Frederick William," thirtieth, New York, Cholera, Baggage, Hamburg, PUCKARD,*

would be understood to mean that the steamer "Frederick William" left Liverpool on the 30th of June, 1879, for New York, having on board passengers or goods (baggage) coming from the cholera-infected district of Hamburg, while Liverpool at the time is a healthy port.

The following were ordered by the Executive Committee at recent meetings:

Ordered, That the Secretary obtain from each city furnishing the Board with mortality statistics information as to whether a burial permit is required in said city before interment is allowed; also that in future numbers of the BULLETIN, after information is received, such city should be distinctly marked, the statistics being more reliable.

The following memoranda are transmitted for the purpose of securing, when necessary, a speedy execution of the provision in the act of Congress of June 2, 1879, requiring the National Board of Health to "co-operate with and, so far as it lawfully may, aid State and municipal boards of health in the execution and enforcement of the rules and regulations of such boards to prevent the introduction of contagious and infectious diseases into the United States from foreign countries and from one State into another":

1. All communications to this Board pertinent to the matters included within the above provision should be made by State or municipal boards of health and not otherwise.

3. Official information should be given therein of the adoption by such State or municipal board of any rules and regulations that have been recommended in such case by this Board, and of any other State or municipal rules and regulations that appear to be necessary for the purpose of question.

Report of mortality in foreign cities for the week ending June 7, 1879.

[illegible]

Report of mortality in foreign cities for the week ending June 14, 1879.

	70	55	23	32	2	2	7	3	6	393	1,049,171	31.2	
Berlin	6	15	4	7	1	1	1	3	1	18	49	106,000	24.0
Bremen	10	1	1	2	2	1	1	3	7	43	63	370,000	29.3
Breslau	1	1	1	1	1	1	1	1	1	1	1	140,104	23.2
Cologne	1	1	1	1	1	1	1	1	1	1	1	107,216	29.1
Danzig	2	3	5	7	1	1	1	1	1	38	96	212,872	23.5
Dresden	20	3	5	10	3	3	3	3	1	43	48	124,138	20.1
Frankfurt	19	4	6	10	10	2	6	3	3	165	18	377,068	26.8
Hamburg	19	4	6	20	10	2	6	3	3	47	47	121,363	20.1
Köln	19	4	6	20	10	2	6	3	3	165	18	377,068	26.8
Königsberg	5	4	4	17	1	1	1	1	1	26	88	130,718	35.0
Leipzig	19	23	5	7	1	1	1	1	1	22	66	145,519	23.6
Munich	9	2	1	14	1	1	1	1	1	76	120	350,000	33.9
Nuremberg	9	2	1	14	1	1	1	1	1	76	120	350,000	33.9
Strasbourg	8	6	3	5	4	1	1	1	2	28	52	101,150	26.7
Stuttgart	8	6	3	5	4	1	1	1	2	19	42	105,230	20.7
Totals	217	134	57	142	18	7	19	21	22	984	1,786	3,321,901	28.0

Report of mortality in cities of the United States for the week ending June 28, 1879.

Baltimore	1	21	22	4	.....	7	6	2	3	1	.....	2	.....	235	400,000	39.6
Boston	1	22	7	11	.....	12	.....	2	6	5	.....	3	.....	117	365,000	16.7
Brocklyn	1	21	48	11	1	3	17	.....	2	6	8	.....	1	129	565,000	21.1	
Cincinnati	1	13	33	.....	.....	.....	.....	.....	14	.....	.....	1	.....	125	290,000	23.2
Cleveland, Ohio	.....	5	1	.....	.....	1	4	.....	1	3	2	.....	1	25	162,000	13.8
Dayton, Ohio	.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	39,000	6.7
Fall River, Mass.	1	3	.....	1	.....	.....	.....	2	.....	.....	.....	1	.....	19	48,500	20.4
Hudson County, N. J.	.....	.....	6	4	1	.....	3	3	.....	.....	.....	1	.....	44	199,000	11.5
Milwaukee, Wis.	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42	115,000	18.9
Nashville	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	27,000	23.9
Newburyport	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	8	13,500	30.8
New Haven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	60,000	13.8
New Orleans	.....	11	15	2	.....	.....	2	1	.....	.....	.....	.....	.....	2	210,000	28.7
New York	4	53	11	20	.....	26	38	9	6	1	28	.....	14	562	1,097,563	26.6	
Philadelphia	.....	3	44	23	7	2	9	18	1	7	.....	2	.....	81	214,416	16.6
Richmond, Va.	.....	4	3	9	1	.....	2	1	.....	.....	.....	.....	.....	49	80,000	31.9
Savannah	.....	3	9	1	.....	.....	2	1	.....	.....	.....	.....	.....	18	32,656	49.3
Springfield, Mass.	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	6	31,600	10.0
Saint Louis	2	18	36	.....	.....	.....	.....	.....	.....	.....	.....	1	1	166	500,000	17.3
Totals	13	227	347	68	13	51	114	25	14	42	71	1	2	10	28	172	2,076	4,842,752	22.3

Report of mortality in cities of the United States for the week ending July 5, 1879.

Augusta, Ga.		2						1		3	6	36,574	11.5
Baltimore, Md.	1	17	90	2				3	2	159	241	400,000	31.7
Birmingham, N. Y.					1		12				4	18,000	11.5
Boston	1	19	4	8	1					1	105	365,000	15.0
Brooklyn	1	39	143	9	1	3	9	1	5	231	350	561,000	32.2
Cambridge, Mass.	1	1	1	1	2						7	50,000	7.3
Charleston, S. C.	2	10	1		3	1				16	39	57,000	33.6
Chattanooga	1								1	3	4	12,000	16.5
Chicago	5	22	86	7	2	8		196	247	537,624	37.8		
Cincinnati	1	14	10	5	3	9	9	4		146	280,000	27.1	
Cleveland, Ohio	1	5		1	4	1		24		17	162,000	15.1	
Columbia	1	4			2					15	39,000	20.0	
District of Columbia	1	35	14	1	2		1	3		103	165,000	32.4	
Eastern Count., New Jersey	1	6	19	4	5	1	4			85	190,000	22.2	
Jacksonville, Fla.	1									1	10,000	11.2	
Lawrence, Mass.	1	11	1					1		16	25	40,000	32.5

Report of mortality in cities of the United States for the week ending July 5, 1879—Continued.

Places.	Cerebro-spinal fever.	Consumption.	Diarrhœal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Sun-stroke.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.	Deaths under 5 years.	Total number of deaths.	Population.	Death rate per 1,000.
Louisville	4	6	15	1	1			3						1			58	60	160,000	19.5
Lowell, Mass.		4									2			1				15	52,000	15.0
Marquette, Mich.		1												1				3	3,000	34.6
Milwaukee				3							1							35	125,000	14.7
Nashville		2	5												1			13	27,085	24.9
New Bedford, Mass.		2	1	1														9	27,000	12.6
Newburyport																	1	3	13,500	11.5
New Haven		1	5												1		8	17	60,000	14.7
New Orleans		1	21	18			3	4		2							57	126	210,000	31.2
Niles City, Mich.			4	10			8	30						1	30		139	305	4,630	19.4
Philadelphia		3	40	3	1	2	2		1	1	8			1			139	305	817,448	19.4
Pittsburgh		5	39		1	4	4		4		2			1	1	1		91	145,000	32.6
Port Gibson		1															1	1	1,100	47.3
Quarantine Hospital, New York.																				
Quincy, Ill.				3			2							1	1		9	17	35,000	35.0
Reading, Pa.		5	1				1										5	17	40,000	22.1
Richmond, Ind.															1			1		
Richmond, Va.			9								1						2	36	80,000	21.4
Savannah			6	1			2	1							1		11	19	32,656	30.3
Somerville, Mass.		2	1				1										1	7		
Tra, N. Y.		1															3	3	35,000	4.3
Wheeling, W. Va.		1	4														5	7	30,000	12.1
Totals	14	226	542	45	8	7	107	43	10	3	59		2	21	11	1	937	2,253	4,823,917	27.1

* Six cases of yellow fever admitted to hospital.

NOTES FROM CONSULAR REPORTS.

Port au Prince.—Under date of June 7, 1879, Hon. John Mercer Langston, Minister Resident at Port au Prince, Hayti, reports "that the public health is so far restored, typhus and yellow fever have so entirely abated," that clean bills of health are now being issued by him. He also reports abundant rains and such change in the weather as warrants the belief that the extreme sickly season for the spring and summer has passed.

Later advices have just been received through the State Department from Mr. Langston, dated Port au Prince, June 26, in which he says, "I now have the honor to state that the condition of public health which existed at the time I wrote you has so far changed, typhus and yellow fever having made their appearance again, and are prevailing to such an extent, that I deem it my duty to advise you that I have issued no clean bills of health since the 21st instant, and shall not issue another until these fevers are known to have entirely abated in this city and port."

Singapore.—Under date of May 27, 1879, Hon. A. G. Studer, United States Consul, reports that "during the past week there have been no appearances of epidemics and infectious diseases in the port and adjacent country" so far as he has been able to ascertain.

Bermuda.—Under date of June 26, 1879, Hon. Charles M. Allen, United States Consul, reports general good health, with "only 2 per cent. of the military off duty with slight sickness."

Queensdown.—Under date of June 27, 1879, Hon. Lewis Richmond, United States Consul, reports general good health, "notwithstanding almost continuous rains for the last three months."

Belfast.—Hon. James Donnan, United States Consul at Belfast, reports, under date of June 27, 1879, one death from small-pox and one from typhus fever for the week ending June 27. He adds, measles and whooping-cough are the prevailing diseases. Total deaths for the week, from all causes, 25, in a population of 182,082.

THE MAYOR of Steubenville, Ohio, reports July 11, 1879, in answer to request for mortuary statistics, that "we have no officer who could give an accurate report as desired by your circular, as our Council saw proper to abolish our Board of Health, which deprives us of a health officer."

MISCELLANEOUS.

REPORT OF COMMITTEE APPOINTED TO CONFER WITH THE REPRESENTATIVES OF THE RAILROAD AND STEAMBOAT INTERESTS OF THE MISSISSIPPI VALLEY.

By invitation of the Committee appointed for that purpose representatives of the above interests met, in the city of Memphis, July 2, 1879, and organized by electing Dr. R. W. Mitchell, Chairman, and Dr. John H. Ranch, of Chicago, Secretary. The following lines and companies were represented, as follows: Mr. James Montgomery, Louisville and Nashville Railroad; Mr. J. D. Randall, Memphis and Saint Francis River Packet Company; Mr. W. E. Smith, Memphis and Little Rock Railroad Company; Mr. M. S. Jay, Memphis and Little Rock Railroad Company; Mr. M. Burke, Mississippi and Tennessee Railroad Company; Dr. J. D. Lindsley, Chattanooga, Nashville and Saint Louis Railroad Company; Mr. T. S. Davant, Memphis and Charleston Railroad; Capt. Ad. Storm, Saint Louis Anchor Line Boat Company; Mr. R. A. Speed, Memphis and Arkansas River Packet Company; Captain Lee, Memphis and Friar's Point Packet Company; Capt. R. W. Lightburne, Memphis and Cincinnati Packet Company.

The rules and regulations for securing the best sanitary condition of steamboats and other vessels, also the best sanitary condition of railroads, including station houses, road-beds and cars of all descriptions, were read separately, discussed, and unanimously approved.

Assurance was given of the cordial co-operation of the railroad and steamboat interests in all measures adopted by the National Board of Health in their efforts to prevent the spread of contagious and infectious diseases. All that was asked was that all rules and regulations adopted by the National Board of Health be made uni-

form at all places and ports. The representatives also approve the recommendations made by the Mississippi Valley Sanitary Council as a special measure of protection to the Mississippi Valley, that *stations of inspection* be established at Vicksburg, Memphis, and Cairo.

IT HAS been suggested by Dr. Thos. F. Wood, Secretary of the State Board of Health of North Carolina, to add to the list of questions recommended by the National Board in the "Rules and regulations recommended to be adopted and observed at all ports in the United States which are or may be designated quarantine stations," certain questions relative to ballast. Acting on this suggestion the Executive Committee of the National Board of Health recommend that the following questions be added to said list: "What have you for ballast?" "When and where was it obtained?"

THE LAW providing "office-rooms for the National Board of Health, and for the publication of its reports and papers, and for other purposes," was approved July 1, 1879, instead of July 2, as published in the last number of the BULLETIN.

IN ORDER to bring the date of publication of the BULLETIN as near as possible to the date of latest information received, the current number is dated July 12 instead of July 5. The day of publication has been fixed for Saturday of each week.

THE FIRST case of yellow fever admitted to quarantine hospital, New York, this year, as reported by Dr. Vanderpoel, health officer, occurred during the week ending June 28, 1879.

THE FOLLOWING mortuary reports for the week ending July 5 were received too late to appear in the table of statistics on pages 11 and 15:

Allegheny, Pa.—Thirteen deaths from diarrhoeal diseases; 1 from acute lung disease, and 1 from consumption. Total deaths for the week 27, in a population of 75,000. Deaths under 5 years, 19.

Erie, Pa.—Four deaths from measles, pneumonia 4, and consumption 1. Total deaths for the week 7.

Kansas City.—Twelve deaths from diarrhoeal diseases: 1 from erysipelas; 3 from acute lung diseases; 2 from consumption; 2 from whooping-cough. Total deaths 24, in a population of 50,000. Deaths under 5 years, 13. Two cases of scarlet fever reported, but no deaths.

Orange, N. J.—One death from diarrhoeal disease, and 1 from consumption. Total deaths 4, in a population of 10,133—all under 5 years.

JOINT RESOLUTION authorizing the Secretary of the Navy to place vessels and hulks at the disposal of commissioners of quarantine, or other proper persons, at the ports of the United States. Approved June 14, 1879.

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Navy be, and he is hereby, authorized in his discretion, at the request of the National Board of Health, to place, gratuitously, at the disposal of the commissioners of quarantine, or the proper authorities at any of the ports of the United States, to be used by them temporarily for quarantine purposes, such vessels or hulks belonging to the United States as are not required for other uses of the National Government, subject to such restrictions and regulations as the said Secretary may deem necessary to impose for the preservation thereof.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

Dr. Wirt Johnson, in his weekly report to the National Board of Health, dated New Orleans, July 4, 1879, states that he has just returned from a visit to Barataria Bay, Fort Livingston, Grand Island, Chemierre Caminada, and the neighboring coast and passes west of the mouths of the Mississippi. He says that along this part of the Gulf coast there is no place of commercial importance, and that the water is shallow for a mile or two out from the shore, so that no vessels now land along this part of the coast. The inlets from the Gulf to Barataria Bay are Southwest Pass, Grand Pass, and Quatre Pass. The water in many places in the bay does not exceed three feet in depth, and it would therefore be impossible for vessels to navigate its waters. Only a few small sail-boats laden with domestic fruits and fish, and a steamboat running between New Orleans and Grand Island, are to be seen.

Dr. Johnson took special care to ascertain whether vessels from Havana, Hayti, or other infected ports were in the habit, while anchored off the coast, of reshipping freight on small boats through Barataria Bay and the bayous connecting it with the Mississippi River, and learned that such traffic was not carried on. The inhabitants have more fear of yellow fever reaching them through New Orleans than from any other direction, and believe that the epidemic of last year, which occurred at Chemierre Caminada, was introduced by a sick man arriving from that port.

No quarantine station exists on this part of the Gulf coast, from the mouth of the Mississippi to Wax Bayou on Atchafalaya River, and while there is no danger of yellow fever at present being introduced from that part of the coast, it would be possible in the event of a reshipment to small boats as previously indicated. In that event a quarantine station could be established at or near Fort Livingston, where an unoccupied Government building now stands.

Dr. Johnson also reports five or six cases of leprosy (elephantiasis) at Chemierre Caminada and a number of cases at other points along the coast, which he proposes to investigate.

Dr. John H. Pope, under date of July 4, 1879, writes from Galveston, Texas, stating that "Brazos Santiago is, under existing circumstances, the port through which contagious and infectious diseases are most liable to be introduced into Texas." Grave doubts are expressed by the health officer of the State as to the efficiency of the quarantine regulations, as each locality is permitted to make its own. He expressed himself as heartily in favor of co-operating with the National Board of Health in matters of coast and inter-State quarantine, and thinks that there is danger of the introduction of yellow fever by means of small craft entering towns not guarded by quarantine regulations.

MORTALITY STATISTICS OF THE TENTH CENSUS.

The special attention of all physicians in the United States and of all persons who are interested in the public health, is invited to the blank forms for registration of deaths which are now being issued by the Superintendent of the Tenth Census to all practicing physicians and surgeons in this country whose addresses can be obtained.

These blanks are in the form of small memorandum-books, each book containing twenty-four leaves, and each leaf being devoted to the record of one death. When the book is filled, or as soon as practicable after June 1, 1880, it is to be forwarded by mail to the Census Office, where it will be used to verify the accuracy of the schedules furnished by the census-takers for June 1, 1880.

This attempt to secure completeness and accuracy in the vital statistics of the next census is of the highest interest to the National Board of Health as well as to all State and municipal sanitary organizations, since in the absence of such statistics public hygiene can have no scientific or satisfactory foundations.

It is therefore hoped that every practitioner of medicine in this country will obtain one of these books (which will be sent upon application by any physician to the Census Office), and make the record as accurate as possible.

NATIONAL BOARD OF HEALTH rooms are located corner Fifteenth and H streets, n. w.

LAWS RELATIVE TO QUARANTINE IN THE PORT OF NEW YORK.

Extracts from an act establishing a quarantine and defining the qualifications, duties, and powers of the health officer for the harbor and port of New York, passed April 29, 1863.

SECTION 1. Quarantine for the protection of the public health, according to the provisions of this act, is hereby authorized, required, and established in and for the port of New York, for all vessels, their crews, passengers, equipment, cargoes, and other property on board the same, arriving thereat from other ports.

THE QUARANTINE ESTABLISHMENT.

SEC. 2. The quarantine establishment shall consist of, first, warehouses, wet-docks, and wharves; second, anchorage for vessels; third, floating hospital; fourth, boarding station; fifth, burying-ground; sixth, residence for officers and men.

WAREHOUSES, WET-DOCKS, AND WHARVES.

SEC. 3. The warehouses, wet-docks, and wharves, together with appropriate appurtenances for unloading and storing cargoes, and such facilities as will enable merchants to overhaul and reit vessels while in quarantine, shall be constructed at such expense and in such place in the Lower Bay of New York, not on Staten Island, Long Island, or Coney Island, as the quarantine commissioners may determine, with the approval of the Commissioner of the Land Office.

SEC. 4. The warehouses shall be of such capacity only as will secure the best natural ventilation consistent with security for merchandise, but in the aggregate they shall be of a capacity equal to the storage of fifty medium-sized cargoes; and they shall have connected with them apartments with suitable appliances for special disinfection by forced ventilation, refrigeration, high steam, dry heat, and chemical disinfection.

SEC. 5. The wharves shall be constructed with due regard to safety and protection for vessels, and sufficiently extensive to admit of the safe moorage of at least four vessels of the largest size at the same time. There shall be two wet-docks, each one capable of admitting a ship of the largest size.

ANCHORAGE.

SEC. 6. The anchorage for vessels under quarantine shall be in the lower bay, distant not less than two miles from the nearest shore, and within an area to be designated by buoys by the quarantine commissioners and health officer.

FLOATING HOSPITAL.

SEC. 7. The floating hospital shall be constructed with special reference to the purposes of a hospital, and with a capacity sufficient to accommodate one hundred patients. From the first day of May to the first day of November, that floating hospital shall be anchored in the lower bay not less than two miles distant from the nearest portion of the quarantine anchorage and from the nearest shore. From the first day of November to the first day of May the floating hospital may be moored at the quarantine wharves or other secure place, subject to the discretion of the commissioners of quarantine.

BOARDING STATION.

SEC. 8. The boarding station for vessels from any place where disease subject to quarantine existed at the time of their departure, or which shall have stopped at any such place on their voyage, or on board of which, during the voyage, any case of such disease shall have occurred, arriving between the first day of April and the first day of November, shall be in the lower bay below the Narrows, and consist of the vessel at present used as a floating hospital, or such other vessel as may hereafter be provided, to be anchored in such proximity to the floating hospital and the channel as will afford the greatest dispatch in boarding and directing vessels as soon as practicable after their arrival; and said station shall be provided with all necessary appurtenances for personal cleanliness and the purification of personal baggage, and all such vessels, immediately on their arrival, shall anchor near such boarding station, within the quarantine anchorage, specified in section six of this act, and there remain, with all persons arriving thereon, subject to the provisions of this act and of the act hereby amended.*

WHAT VESSELS SUBJECT TO QUARANTINE.

SEC. 9. Vessels arriving at the port of New York shall be subject to quarantine as follows: 1st. All vessels from any place where disease, subject to quarantine, existed at the time of their departure, or which shall have arrived at any such place, and proceeded thence to New York, or on board of which, during the voyage, any case of such disease shall have occurred, arriving between the first day of April and the first day of November, shall remain at quarantine for at least thirty days after their arrival, and at least twenty days after their cargo shall have been discharged, and shall perform such further quarantine as the quarantine commissioners may prescribe, unless the health officer, with the approval of the quarantine commissioners, shall sooner grant a permit for said vessel or cargo, or both, to proceed. 2d. From any place (including islands) in Asia, Africa, or the Mediterranean, or from any of the West Indies, Bahama,

Bermuda, or Western Islands, or from any place in America, in the ordinary passage from which they pass south of Cape Henlopen, and all vessels on board of which, during the voyage, or while at the port of their departure, any person shall have been sick, arriving between the first day of April and the first day of November, and all vessels from a foreign port, not embraced in the first subdivision of this section, shall, on their arrival at the quarantine ground, be subject to visitation by the health officer, but shall not be detained beyond the time requisite for due examination and observation, unless they shall have had on board, during the voyage, some case of quarantinable disease, in which case they shall be subject to such quarantine and regulations as the health officer and the quarantine commissioners may prescribe. 3d. All vessels embraced in the foregoing provisions, which are navigated by steam, shall be subject only to such length of quarantine and regulations as the health officer shall enjoin, unless they shall have had on board during the voyage some case of quarantinable disease, in which case they shall be subject to such quarantine as the health officer and quarantine commissioners shall prescribe.

VACCINATION.

SEC. 10. Persons with insufficient evidence of effective vaccination, and known to have been recently exposed to small-pox, shall be vaccinated as soon as practicable, and detained until the vaccine shall have taken effect. No other well persons shall be detained in quarantine any longer than necessary to secure cleanliness. Such vaccination and disposal of persons vaccinated shall be made under regulations to be fixed by the quarantine commissioners and health officer. Persons having small-pox shall be disposed of in the same manner as is done under existing laws.

WHAT DISEASES ARE QUARANTINABLE.

SEC. 11. The only diseases against which quarantine shall apply are yellow fever, cholera, typhus or ship fever, and small-pox, and any new disease not now known, of a contagious, infectious, or pestilential nature, at the discretion of the quarantine commissioners and health officer.

CLASSES OF MERCHANDISE SUBJECT TO QUARANTINE.

SEC. 12. For the purpose of sanitary measures merchandise shall be arranged in three classes:

1. Merchandise to be submitted to an obligatory quarantine and to purification;
2. Merchandise subject to an optional quarantine; and,
3. Merchandise exempt from quarantine.

The first class comprises clothing, personal baggage, and baggage, rags, paper-rags, hides, skins, feathers, hair, and all other remains of animals, cotton, hemp, and woolsens. The second class comprehends sugar, silks, and linen, and cattle. The third class comprehends all merchandise not enumerated in the other two classes.

MERCHANDISE, HOW DISPOSED OF.

SEC. 13. With existing quarantinable disease on board, or if there be any such disease on board within the ten days last preceding, merchandise of the first class shall be landed at the quarantine warehouse. Merchandise of the second class may be admitted to pratique immediately, or transferred to the warehouses, according to circumstances, at the option of the health officer, with due regard to the sanitary conditions of the port. Merchandise of the third class shall be declared free, and admitted without unnecessary delay.

LETTERS AND PAPERS, PURIFICATION OF.

SEC. 14. In all cases where there has been quarantinable disease on board during the voyage, letters and papers shall be submitted to the usual purifications, but with such precautions as not to affect their legibility. Articles of merchandise or other things not subject to purifying measures, in an envelope officially sealed, shall be immediately admitted to pratique, whatever may be the condition of the vessel; and if the envelope is of a substance considered as optional, its admission shall be equally optional.

DETENTION OF VESSELS AND CARGOES.

SEC. 15. If a vessel, though not having had during the voyage any case of quarantinable disease, yet be found in a condition which the health officer shall deem dangerous to the public health, the vessel and cargo shall be detained until the case shall have been considered; the decision of the health officer, however, in all such cases, shall be rendered within twenty-four hours. Vessels in an unhealthy state, whether there has been sickness on board or not, shall not be allowed pratique until they shall have been broken out, duly cleansed, and ventilated.

SANITARY MEASURES, WHAT KIND MAY BE RESORTED TO.

SEC. 16. If, in the judgment of the health officer, a vessel require it, he may order the following sanitary measures: Baths and other bodily care for the person; washing or other disinfesting means for clothing; displacement of merchandise on board, or complete breaking out; subjection to high steam, incineration, or submersion at a distance below the surface of the water, for infected articles; the destruction of tainted or spoiled food or beverages; the complete ejection of water; thorough cleansing of the hold and the disinfection of the walls. In short, the complete purification of the vessel in all her parts by the use of steam, fumigation, force-pumps, rubbing, or

* As amended by section 1 of chapter 592 of the laws of 1905.

scrapping, and finally sending to quarantine anchorage until disinfection be perfected. Whenever these divers operations are necessary they shall always be executed before admission to pratique.

ADMISSION OF VESSELS TO PRATIQUE.

SEC. 17. Admission of vessels to pratique shall be preceded by as many visits to the vessel as the health officer may judge necessary.

RESTRICTION ON PUTTING VESSELS IN QUARANTINE.

SEC. 18. No vessel shall be put in quarantine without a stated decision of the health officer, and the captain or master of the vessel shall be informed thereof immediately after his decision, and no vessel subject to quarantine shall depart therefrom without the written permission of the health officer; and such permit shall be delivered by the master of the vessel to the mayor of the city of New York or the mayor of the city of Brooklyn, according to the destination of such vessel, within twenty-four hours after said permit shall be received by said master.*

VESSELS MAY PUT TO SEA, WHEN.

SEC. 19. A vessel shall have the right, before breaking bulk, of putting to sea, in preference to being quarantined. In the exercise of this right, if the vessel have not arrived at her port of destination, the bill of health shall be returned; the health officer, however, shall mention upon said bill the length and circumstances of the detention, and the condition of the vessel upon reuniting to sea. But before the exercise of this right the health officer must satisfy himself that the sick of such vessel will be taken care of for the remainder of the voyage, and take care of such sick as prefer to remain.

INFECTED VESSELS, MEASURES TO BE ADOPTED ON THEIR ARRIVAL.

SEC. 20. On arrival of infected vessels, all well persons shall have their freedom as soon as possible, consistently with the foregoing regulations; sick persons shall be immediately transferred to the floating hospital, or other hospitals appropriated for their reception, and the vessel unladen, purified, and admitted to pratique as soon as possible. All merchandise shall be placed in the warehouses, and there freely exposed to the air, and moved from time to time to insure its perfect ventilation. In no case shall persons sick with different diseases be put in the same hospital.

DISPOSITION OF MERCHANDISE.

SEC. 21. Merchandise coming from different vessels and places, and at different times in quarantine, shall be kept separate and placed as much as practicable in different warehouses.

PURIFICATION OF MERCHANDISE.

SEC. 22. Merchandise shall be submitted to such measures of purification as the health officer shall judge necessary; no putrefied animal substances, or substances likely to putrefy, shall be admitted in the warehouses; all such substances shall be rendered innocuous or destroyed.

PURIFICATION OF CLOTHES, ETC.

SEC. 23. The clothes and dunnage contaminated with infection of different diseases shall be purified in different places.

YELLOW FEVER, TYPHUS OR SHIP FEVER, SMALLPOX, AND CHOLERA.

SEC. 24. The floating hospital shall, from the 1st day of April to the 1st day of November, be appropriated exclusively to the care of persons sick with yellow fever; from the 1st day of November to the 1st day of April, the floating hospital may be used for the care of typhus or ship fever; and until permanent provision shall be otherwise made by law, smallpox patients shall be sent to and supported, as at present, at Blackwell's Island; and typhus or ship fever patients shall be sent to and supported, as at present, at Ward's Island; and cholera patients shall be provided for by the commissioners of quarantine, in such manner as they may determine and occasion shall demand.

HEALTH OFFICER, HOW APPOINTED.

SEC. 25. A health officer for the port of New York shall be nominated by the appointing authority, and by him, with the consent of the senate, and shall hold his office for the term of two years, and until a successor in such office shall be duly qualified: *Provided, however*, That no one shall be appointed a health officer except a doctor of medicine, of good standing, and of at least ten years' experience in the practice of his profession, and who shall also be practically familiar with the diseases subject, by this act, to quarantine. Nothing in this section contained shall authorize the governor to appoint a health officer during the recess of the senate, except in case of a vacancy by death or resignation.

DUTIES OF HEALTH OFFICER.

SEC. 26. It shall be the duty of the health officer to reside at such convenient place for the boarding of vessels as the commissioners of quarantine may determine, and to have the general superintendence and control of the quarantine establishment, and the care and treatment of the sick, and to carry out all the provisions of this act. And he shall have power

TO ADMINISTER OATHS.

1. To administer oaths and take affidavits in all examinations prescribed by this act, and in relation to any alleged violation of

quarantine law or regulation; such oaths to have the like validity and effect as oaths administered by a commissioner of deeds.

POLICE.

2. The Commissioners of the Metropolitan Police are hereby authorized and empowered and directed to appoint five additional policemen, to be placed under the direction of the health officer, to perform patrol and police duty; and in any necessary emergency the said Metropolitan Police Commissioners shall furnish five additional policemen, upon the requisition of the health officer, to be detailed by said officer, not exceeding five days at any one time. The five policemen so to be appointed by the said commissioners shall receive the same salary as other policemen are paid in the Metropolitan district; but the amount so paid shall be refunded by the comptroller of the State, out of the general fund, upon the certificate of the said police commissioners.*

ARREST AND PUNISHMENT OF OFFENDERS.

3. To direct, in writing, any constable or other citizen to pursue and apprehend any person who shall violate any quarantine law or regulation, or who shall obstruct the health officer in the performance of his duty, and deliver him over to the said officer to be detained at quarantine until discharged by such officer; but such confinement shall in no case exceed ten days; and it shall be the duty of the constable or other citizen so directed to obey such directions; and every person violating the quarantine laws or regulations, or obstructing the health officer, shall be considered guilty of a misdemeanor punishable by a fine of not less than one hundred nor more than five hundred dollars, or by imprisonment not less than three months nor more than six months.

MAY SELECT NURSES, ETC., AND LICENSE LIGHTERMEN, ETC.

4. To select, and appoint, and dismiss at pleasure, as many nurses, boatmen, and other employes of the floating hospital and boarding station as may be found necessary for the care and proper treatment of the inmates thereof; and also, and in conjunction with the quarantine commissioners, to license lightermen, stevedores, laborers and other employes, as may be found necessary for the care and purification of vessels, merchandise, baggage, dunnage, &c., in quarantine; but the compensation of all persons so employed shall be fixed and determined by the commissioners of quarantine.

HIS DEPUTIES.

5. To select, appoint, and dismiss at pleasure, two assistant or deputy health officers, for whose conduct he shall be responsible, and who may perform, subject to his direction, all the duties required of the health officer.

OATH OF OFFICE.

SEC. 27. It shall be the duty of the health officer, and his assistants and deputies—

1. To take and subscribe the oath of office prescribed in article twelve of the constitution of the State of New York.

BOARDING VESSELS.

2. To board every vessel subject to quarantine or visitation by him, as soon as practicable after her arrival, between sunrise and sunset; to inquire as to the health of all persons on board, and the condition of the vessel and cargo, by inspection of the bill of health, manifest, log-book or otherwise; to examine, on oath, as many and such persons on board as he may judge expedient to enable him to determine the period of quarantine and the regulations to which such vessel and her cargo shall be made subject; and to report the facts and his conclusions, and especially to report the number of persons sick, and the nature of the disease with which they are afflicted, to the quarantine commissioners.†

BURIAL OF DECEASED PERSONS.

3. To exercise dispatch in the disposal of persons arriving in infected vessels, to have the bodies of persons who have died of malignant diseases on board of infected vessels arriving, and such as shall have died in the floating hospital, interred in the quarantine burying-ground near Seguin's Point; and to proceed, without delay, in the purification of vessels, merchandise, baggage, dunnage, and other articles in quarantine; and whenever he shall judge the same free from infection, to permit the removal thereof. No vessel or cargo, however, that has been in quarantine, shall be permitted to proceed to New York or Brooklyn without the approval of the mayor or board of health of those cities respectively.

EFFECTS OF DECEASED PERSONS.

4. To secure the effects of deceased persons, in quarantine, from waste and embezzlement, and make a true inventory thereof, and when the rightful claimants of such effects do not appear within three months, to deliver the same, with such inventory, to the public administrator of the city of New York, unless the said property be of such description as ought not to be removed or may be destroyed under the provisions of this act.‡

* As amended by section 2 of chapter 592 of the laws of 1865, and modified as to payment of salaries by chapter 481 of the laws of 1867.

† As amended by section 4 of chapter 592 of the laws of 1865.

‡ As amended by section 5 of chapter 592 of the laws of 1865.

* As amended by section 2 of chapter 592 of the laws of 1865.

5. To keep the boards of health of New York and Brooklyn at all times informed of the number of vessels in quarantine, of the number of persons sick in the floating hospital, and of the diseases with which they are afflicted.

6. To receive any vessel or merchandise sent to him by the health authorities of New York or Brooklyn, dangerous to the public health.

CASES OF YELLOW FEVER.

7. To receive into the floating hospital any case of yellow fever that shall have been contracted in quarantine establishment or elsewhere.

YELLOW FLAG.

8. To have all vessels, warehouses, and merchandise in quarantine designated by a yellow flag; and to prohibit communication with, or passage within range of, such vessels and places, except under such restrictions as he may designate as being compatible with safety.

SPECIAL POWERS OF THE HEALTH OFFICER TO EMPLOY ASSISTANTS.

SEC. 28. Whenever the health officer, in the performance of his duties and in the execution of the powers imposed and conferred upon him by law, or by any regulation or ordinance made in pursuance of any statute of this State, shall order or direct the master, owner or consignee of any vessel subject to quarantine to do any act or thing or comply with any regulation relative to said vessel, or to any person or thing on board thereof, and said master, owner, or consignee shall neglect or refuse to comply with such order or direction, the said health officer shall have power to employ such persons and assistance as may be necessary to carry out and enforce such order and direction, and the persons so employed shall have a lien on such vessel, her tackle, apparel, and furniture, for their services and expenses.

LIGHTER MEN MAY BE EMPLOYED BY CAPTAINS OR OWNERS, HOW.

SEC. 29. The health officer, in the lighterage, stevedorage, and storage of vessels and merchandise in quarantine, may permit the captains and owners to employ lighterage and men on their own account; all persons so employed, however, shall be subject to the same restrictions for the protection of the public health as those who may be licensed for the same services by the health officer and commissioners.

WHAT EXPENSES AND SERVICES TO BE PAID FOR BY MASTERS OF VESSELS AND OTHERS.

SEC. 30. Whenever any expense shall be incurred by the health officer, or whenever any services shall be rendered by him or his employees in the discharge of the duties imposed upon him by law in relation to vessels, merchandise, baggage, dunnage, persons, or burials under quarantine, such expenses and services shall be paid for to the health officer by the masters of the vessels for which such expenses shall have been incurred, or the services shall have been rendered, or in which the merchandise, baggage, dunnage, and persons shall have arrived. Persons conveyed to or from the quarantine establishment in the steamboat hereinafter mentioned shall pay the health officer for such transportation individually, except in cases where they shall be conveyed for the master of a vessel, in which case the master shall pay for the same. The storage of all merchandise in the quarantine warehouses shall be paid for by the owners or consignees to the quarantine commissioners on delivery; and the use of the wet-docks for overhauling and repairing vessels shall be paid for to said commissioners by the captains or owners of the vessels using them. The charges for each and all of said services in this section mentioned, and storage, and the use of said wet-docks shall be fixed and determined upon by said commissioners. And nothing in this section contained shall in any manner impair or reduce the liability and duty of the said health officer to pay the salaries, wages, and expenses imposed upon him by fifty-third section of the act hereby amended.*

EXPENSES AND SERVICES, HOW COLLECTED.

SEC. 31. The expenses, services, and charges specified in the last preceding section shall be a lien on the vessels, merchandise, or other property in relation to which such expenses and charges shall have been made or such services shall have been rendered; and it shall be the duty of the health officer to render an account, payable to the quarantine commissioners, to all masters, owners, or consignees liable to pay any charges to said commissioners, according to the provisions of said section, as soon as practicable after such liability shall have accrued; and if such master, owner, or consignee shall omit to pay the same within three days after said account shall have been rendered, said commissioners may proceed to enforce said lien, or they may have and maintain an action against the master, owners, or consignees of such vessel, or the owners or consignees of such merchandise or property, and each and every one of them, to recover the amount of such expenses, services, and charges; and the health officer shall have the like remedy as is given to said commissioners to recover for any expenses or services which are made payable to him, according to the provisions of said section, in case the same shall remain unpaid for the period of three days after the payment thereof shall have been demanded by him. In the case of passengers, however, for whom expenses shall have been incurred under quarantine, the master of the vessel in which such passengers arrived may re-

cover from them the amount of the expenses incurred on their account. And until all the expenses, services, and charges specified in said last preceding section, and for which a lien is created by this section, shall be paid, the vessel, cargo, and other property shall be held in quarantine; *Provided, however*, That such vessel, cargo, or other property shall not be held in quarantine for non-payment thereof if the master, owner, or consignee thereof shall execute and deliver to the said commissioners of quarantine a bond, with sufficient sureties, to be approved by them, conditioned for the payment of such expenses, charges, and services within ten days thereafter.*

DUTIES AND LIABILITIES OF MASTERS OF VESSELS.

SEC. 32. Every master of a vessel subject to visitation by the health officer who shall refuse or neglect either—

1. To proceed with and anchor his vessel at the place assigned at the time of his arrival; or,

2. To submit his vessel, cargo, crew, and passengers to the examination of the health officer, and to furnish all necessary information to enable that officer to determine to what measures they ought respectively to be subject; or,

3. To remain with his vessel at quarantine during the period assigned by the health officer and while at quarantine to comply with the directions and regulations prescribed by law, and with such as any of the officers of health, by virtue of the authority given to them by law, shall prescribe in relation to his vessel, his cargo, himself, his crew or passengers, shall be guilty of a misdemeanor, and he punished by a fine not exceeding two thousand dollars, or by imprisonment not exceeding twelve months, or both by such fine and imprisonment.

SEC. 33. Every master of a vessel hailed by a pilot who shall either—

1. Give false information to such pilot relative to the condition of his vessel, crew, or passengers, or the health of the place or places from whence he came, or refuse to give such information as shall be lawfully required;

2. Or land any person from his vessel, or permit any person, except a pilot, to come on board of his vessel, or unlade or transship any portion of his cargo before his vessel shall have been visited and examined by the health officer;

3. Or shall approach with his vessel nearer to the city of New York or Brooklyn than the place of boarding or anchorage to which he may be directed, shall be guilty of the like offense, and be subject to the like punishment; and any person who shall land from any vessel, or unlade or transship any portion of her cargo under like circumstances, shall be guilty of the like offense and be subject to the like punishment.

OF THE DUTIES OF PILOTS IN RELATION TO VESSELS SUBJECT TO QUARANTINE.

SEC. 34. It shall be the duty of each branch and deputy pilot belonging to the port to use his utmost endeavors to hail every vessel he shall discover entering the port, and to interrogate the master of such vessel in reference to all matters necessary to enable such pilot to determine whether, according to the provisions of the preceding sections, such vessel is subject to quarantine.

SEC. 35. If, from the answers obtained from such inquiries, it shall appear that such vessel came from a port where any quarantinable disease existed at the time of her departure, or that any case of such disease shall have occurred on board of her during the passage, the pilot shall immediately direct the master of the vessel to proceed and anchor such vessel at the quarantine anchorage in the lower bay. In other cases of vessels liable to quarantine, he shall direct the masters thereof to proceed and anchor such vessels at such point as shall be assigned by the quarantine commissioners as an anchorage for such vessels; *Provided, however*, That the anchorage for such vessels shall be at least one-half mile distant from the shore of Long Island and Staten Island.*

OFFENSES AND THEIR PUNISHMENT.

SEC. 36. Any person except a pilot who shall go on board of, or have any communication or dealing with, any vessel heretofore declared subject to quarantine, before she shall be boarded and examined by the health officer, or while she is being examined by him, or who shall violate any provision of this act, or shall neglect or refuse to comply with any direction or regulation which the health officer or the commissioners of quarantine may prescribe by virtue of this act, shall be guilty of a misdemeanor, and be punished by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment not less than three nor more than six months, or by both such fine and imprisonment. And any person except the master, owner, or consignee of said vessel who shall go on board of any such vessel after she shall have received from the health officer his permit to proceed from quarantine, and before such permit shall be delivered at the office of the mayor of the city of New York or the city of Brooklyn, shall be guilty of the like offense and subject to the like punishment.*

* As amended by section 7 of chapter 592 of the laws of 1865.

* As amended by section 7 of chapter 592 of the laws of 1865.

* As amended by section 9 of chapter 592 of the laws of 1865.

* As amended by section 6 of chapter 592 of the laws of 1865.

DUTY OF HEALTH OFFICER IN PRESENCE OF IMMEDIATE DANGER.

SEC. 37. It shall be the duty of the health officer, in the presence of immediate danger, to take the responsibility of applying such additional measures as may be deemed indispensable for the protection of the public health.

APPEALS.

SEC. 38. Any person aggrieved by any decision or direction of the health officer, may appeal therefrom to the commissioners of quarantine who shall constitute a board of appeal; the said board shall have power to affirm, reverse, or modify the decision, order, or direction appealed from, and the decision of said board thereon shall be final.

SEC. 39. An appeal to the board of appeal must be made by serving upon the health officer a written notice of such appeal within twelve hours (Sundays excepted), or within such further time as shall be allowed by the commissioners of quarantine, after the applicant receives notice of the order, decision, or direction complained of. Within twelve hours after the health officer receives such notice (Sundays excepted), he shall make a return in writing, including the facts on which his order, decision, or direction was founded, to the president of the board of commissioners of quarantine. Upon receipt of such return, or in case no return shall be made within the time aforesaid, he shall immediately call a meeting of the board of appeal, and said appeal shall be heard and decided within twenty-four hours thereafter (Sundays excepted), and until such decisions be made, the order, decision, or direction complained of, except it refer to the detention of a vessel, her cargo or passengers at quarantine, shall be suspended.*

PENALTIES AND FORFEITURES.

SEC. 40. The penalties and forfeitures prescribed by this act may be sued for and recovered, with costs of suit, by and in the name of the commissioners of quarantine, according to the provisions of an act concerning passengers in vessels coming to the city of New York, passed May 5, 1847. * * *

CONSTRUCTION OF THE QUARANTINE ESTABLISHMENT.

SEC. 41. The said commissioners of quarantine are hereby authorized and directed to proceed, without unnecessary delay, to have constructed a floating hospital, warehouses, wet-docks, and to provide a boarding station and a residence for the health officer, with all appurtenances, according to the provisions of this act, and to pay for the same out of the funds heretofore provided, and such other funds as are now held by them, or as they are or shall be empowered to raise or receive for such purposes. In the exercise of quarantine regulations at the harbor and port of New York, until the completion of the establishment, according to the provisions of this act, vessels or hulks may be appropriated for the service of the sick and also for the reception of merchandise, but in such cases they shall be so disposed as to permit the separation of the sick with different diseases, and to secure the best condition of hygiene, especially ventilation, and under no circumstances whatever shall sick persons be kept in proximity with infected vessels or merchandise. Well persons shall have their liberty as soon as practicable, consistent with the provisions of this act; and all means necessary to the protection of the public health shall be instituted according to the exigencies of the case, provided they are not inconsistent with the provisions of this act.

SALARIES AND WAGES OF EMPLOYÉS.

SEC. 42. All salaries and wages of the employees in the quarantine establishment, not specially provided for in this act, shall be fixed and determined by the health officer.

HEALTH OFFICER'S REPORT.

SEC. 43. The health officer shall present to the commissioners of quarantine annually, on or before the 1st of January, a report of the general condition of the quarantine establishment, with the statistics of the institution in detail, and such other information and suggestions in regard to the same as he may deem advisable; he shall also furnish to the boards of health of the cities of New York and Brooklyn, and to the commissioners of quarantine, whenever required by them to do so, an official return of the numbers and diseases of the patients in the floating hospital.

VESSELS AT THE WHARVES OF THE CITY MAY BE REMOVED TO THE QUARANTINE GROUND.

SEC. 44. The board of health or the mayor and commissioners of health of the city of New York, or the board of health of Brooklyn, whenever in their or his judgment the public health shall require, may order any vessel at the wharves of the city or in their vicinity to the quarantine grounds, or some other place of safety, and may require all persons, articles, or things introduced into either city from such vessel to be seized, returned on board thereof, or removed to the quarantine or other place of safety. If the master, owner, or consignee of the vessel cannot be found, or shall neglect or refuse to obey the order of removal, the said board of health or mayor and commissioners of health shall have power to employ such assistance as may be necessary to effect such removal at the expense of such master,

owner, or consignee; and such vessel or person shall not return to the city without a written permission of the said board of health or mayor and commissioners of health. Whenever any person shall have been employed, as above provided, to remove any vessel or to remove any article or thing introduced into the city from such vessel, and shall, in pursuance of such employment, effect such removal, he shall have a lien on such vessel, her tackle, apparel, and furniture, for his services and expenses in effecting such removal.*

PASSENGERS UNDER QUARANTINE, HOW TO BE MAINTAINED.

SEC. 47. All passengers being on board of vessels under quarantine, shall be provided for by the master of the vessel in which they shall have arrived, and if the master shall omit or refuse to provide for them, or they shall have been sent on shore by the health officer, they shall be maintained by the commissioners of quarantine at the expense of such vessel, her owners, consignees, and each and every one of them; and the health officer shall not permit such vessel to leave quarantine until such expense shall have been repaid or secured; and the said commissioners of quarantine shall have an action against such vessel, her owners, consignees, and each and every one of them, for such expenses, which shall be a lien on such vessel and may be enforced as other liens on vessels are enforced by said commissioners of quarantine.

CONFINEMENT OF PERSONS CHARGED WITH OFFENSES.

SEC. 48. The health officer, upon the application of the master of any vessel under quarantine, may confine in any suitable place on shore any person on board of such vessel charged with having committed an offense punishable by the laws of this State or of the United States, and who cannot be secured on board of such vessel; and such confinement shall continue during the term of such person, or until he shall be proceeded against in due course of law; and the expenses thereof shall be charged and collected as in the last preceding section.

JURISDICTION OF OFFENSES.

SEC. 49. Exclusive jurisdiction of the offenses specified in this act is hereby given to the courts of general and special sessions of the peace of the city of New York, and general sessions of the county of Kings; and it shall be the duty of the district attorneys of the city and county of New York and county of Kings, respectively, to prosecute all persons guilty of such offenses in preference to any indictment then in their offices; and it shall be the duty of either of the said courts to hear and try the offenses against this act in preference to all other cases pending before it; and whenever any one of such person, or until he shall be proceeded against in due course of law; and the expenses thereof shall be charged and collected as in the last preceding section.

ALIEN PASSENGERS—HOW PROVIDED FOR.

SEC. 50. The commissioners of emigration shall receive into their hospitals all alien passengers for whom bonds shall have been given or commutation paid, under the several acts of this State relating to alien passengers arriving at the port of New York, who shall be affected with any contagious or infectious diseases, other than yellow-fever, and sent to such hospital by the authority of the health officer. They shall defray the expenses of such patients out of the moneys by them received on account of bonds or commutation. * *

HEALTH OFFICER'S FEES AND DISBURSEMENTS.

SEC. 51. The health officer shall be entitled to receive the fees fixed by law for his services. He shall thereon pay all the salaries and wages of the deputy health officers and such barge-men, nurses, and stewards as may be necessary for the performance of the duties imposed upon him by this act for the carrying on of the quarantine establishment, except the salaries of the commissioners of quarantine; and the said health officer shall pay the current expenses of running a steamboat for the transportation of persons to and from the establishment, and for visitations, and for burying the dead. But nothing in this section contained shall be construed or held to affect the liability of masters or owners of vessels, passengers, or other persons to pay for such services, labor, or work as they are respectively required to pay or discharge by the terms of this act.*

PUNISHMENT FOR OPPOSING OR OBSTRUCTING THE HEALTH OFFICER OR INVADING THE QUARANTINE ESTABLISHMENT.

SEC. 52. Every person who shall oppose or obstruct the health officer or his deputies in performing the duties required of him by law, and every person who shall go on board of or have any communication, intercourse, or dealing with any vessel under quarantine, or with any of her crew or passengers, without the permission of the health officer, or who shall, without such permission, invade any portion of the quarantine establishment shall be guilty of the like offense and subject to the like punishment prescribed by the preceding ninth section of this act; and the offender shall be detained at quarantine so long as the health officer shall direct, not exceeding twenty days. In case such person shall be taken sick of any contagious or infec-

* As amended by section 14 of chapter 543 of the laws of 1867.

* As amended by section 12 of chapter 543 of the laws of 1867.

* As amended by section 14 of chapter 543 of the laws of 1867.

* As amended by section 14 of chapter 592 of the laws of 1867.

tions disease during such twenty days, he shall be detained at quarantine for such further time as the health officer shall direct. Exclusive jurisdiction of the offenses specified in this section is hereby conferred upon the courts specified in the forty-ninth section of the act which is hereby amended, and all the provisions of said last-mentioned section shall apply to said offenses.*

LIENS, HOW ENFORCED.

SEC. 57. The several liens specified in this act and the act hereby amended may be enforced in the same manner as other liens on vessels are enforced by warrant of attachment in the mode prescribed in the act entitled "An act to provide for the collection of demands against ships and vessels," passed April twenty-fourth, eighteen hundred and sixty-two, all the provisions of which shall apply to the services, expenses, and charges hereinafter and in said act specified, and the person or persons to whom said expenses and charges for which such liens are created shall be payable, shall be deemed creditors of the master, owners, or consignees of the vessel or merchandise respectively, and such person or persons may have and maintain an action against the master, owner, or consignee, and each of them, to recover the value of such services, charges, and expenses.†

CAKE OF PASSENGERS WHO HAVE BEEN EXPOSED TO SMALL-POX OR SHIP-FEVER.

SEC. 58. The commissioners of emigration shall, by the order and direction of the health officer, receive and take charge of all passengers arriving at the port of New York who shall have been exposed to the infection or contagion of small-pox or ship fever, to be kept elsewhere than on Staten Island; and the said commissioners of emigration, for the purpose of defraying the expenses therefor, shall be entitled to receive from the owners, masters, consignees, or agents of the vessels arriving at the port of New York the sum of twenty-five cents for each passenger so arriving, to be collected in the same manner that commutation moneys are collected by said commissioners of emigration.‡

LOCAL QUARANTINE LAWS.

OFFICE OF THE BOARD OF HEALTH, Galveston, Tex., May 20, 1879.

By resolution of the Board of Health in session this day, May 20, 1879, the following restrictions are imposed upon all vessels desiring to receive cargoes from this port, said vessels having sailed from ports south of 25° north latitude since April 30, 1879:

When said vessels require the services of a pilot from this port to bring the vessel across the bar the pilot shall, after leaving the vessel, change completely all the clothing which he has worn on board the vessel, before he attempts to enter this city or hold communication with any person from the shore. The vessel shall be anchored within suitable distance of the quarantine station, and not within — miles of this city, and shall remain in quarantine complying strictly with all orders and directions of the quarantine officers whilst in this port.

The officers and crews of the vessels shall confine themselves closely to the vessel, and all intercourse or communication in any way whatever, except through the quarantine office, between the vessels from ports before mentioned and persons from the shore, is strictly prohibited; and any attempt to violate this prohibition will forfeit the privilege of the vessel to enter or receive cargo at this port. The vessel shall not discharge any freight or material of any kind whilst in this port, and shall receive her cargo in the following manner:

The cargo shall be loaded onto barges at a suitable place from the wharf, the barge to be then towed or sailed to Bolivar Channel, opposite or convenient to the quarantine station; the barge to be then anchored, and the vessel which is to receive the cargo be notified by signal. All persons that have been on the barge or engaged in taking it to the place of anchorage shall leave the barge or its immediate vicinity. The vessel to receive the cargo shall, by her crew, be laid alongside the barge, and the crew of the vessel shall transfer the cargo from the barge to the vessel, the officers of the vessel exercising strict care that no persons, clothing, or material of any kind which had been on board the vessel shall be left on the barge. After transferring the cargo, the vessel shall haul off a suitable distance from the barge, and the barge be fumigated and disinfected by the quarantine officer before being returned to this city.

EXTRACTS FROM STATE QUARANTINE LAWS—TEXAS.

SECTION 1, ART. 4090 (k). It shall be the duty of the quarantine officers of the State, or county, or city authorities, as the case may be, to furnish persons detained by them at quarantine station with subsistence and shelter.

ART. 4090 (l). Any person detained at any quarantine station who shall willfully absent himself from such quarantine station without leave of the officer having charge thereof, shall be guilty of a misdemeanor, and shall be fined not less than ten nor more than one thousand dollars, by a court of competent jurisdiction.

(Above extract taken from Senate bill No. 312, passed 1879.)

* Section 11 of chapter 592 of the laws of 1865.

† Section 12 of chapter 592 of the laws of 1865.

‡ Section 4 of chapter 613 of the laws of 1865.

Extract from State law entitled "An act to incorporate the city of Galveston, and to grant a new charter to said city," approved, August 2, 1876.

Title 8, article 1, creates a Board of Health.

ART. 2, SEC. 118. The Board of Health shall have general supervision over the public health of the city, and for that purpose they are authorized and empowered to make such rules and regulations, not in conflict with the ordinances of the city or laws of this State, as they may deem best to promote and preserve the health of the city; to enforce the observance of its rules and regulations, and the laws and ordinances of the city in relation thereto. * * *

ART. 4, SEC. 120. The quarantine physicians shall have power, by an order in writing for that purpose, to be served on the master, captain, or person in charge of any boat, steamboat, steamship, or other ship, vessel, or craft that may be suspected to have on board any infected or diseased property or person, to require such boat, steamboat, steamship, vessel, or other craft, not to enter within the city limits or harbor, or to remove to some certain distance, not less than two miles from the city, and every such master, captain, or person in charge, consignee or owner, who shall be served with such an order shall be guilty of a misdemeanor, punishable with fine and imprisonment, or either, if such boat, steamboat, steamship, vessel, or other craft, shall enter the harbor or city in violation of such order, or shall not be removed according to the tenor of such order within a reasonable time after the service of such notice. * * *

Resolution of Board of Health, passed May 12, 1879.

Resolved, That all vessels sailing from or touching at Key West or any other port *en route* for this port be prohibited from bringing either passengers or freight from any port or place south of 25° north latitude. Any vessel violating this resolution, to be detained in quarantine at this port. This resolution to take effect from the 15th instant.

Resolution of Board of Health, passed April—1879, prohibits vessels which have sailed from or touched foreign ports south of 25° north latitude since May 1 entering the city during the existence of quarantine.

QUARANTINE STATION.

Port of Galveston, May 20, 1878.

The attention of owners, consignees, captains, or masters of vessels, and all others interested in the shipping at this port, is most respectfully called to the following ordinance, passed by the city council April 3, 1877:

SECTION 1. All vessels arriving within the Bay of Galveston are hereby declared to be subject to such quarantine regulations as are herein prescribed.

SEC. 2. The quarantine anchorage shall be abreast of Mesquite Island; and all vessels subject to quarantine shall, immediately upon their arrival from sea, proceed to and be anchored at the place assigned for quarantine, and shall there remain with their officers, passengers and crew during the time of their quarantine, to be prescribed by the Board of Health, but not in any case to exceed twenty days: *Provided*, That when quarantine shall have been declared by the governor of the State of Texas, said vessels shall remain at the quarantine anchorage for the term that may be prescribed by the governor in his proclamation establishing quarantine.

SEC. 3. The quarantine physician, to be appointed by the board of health, shall board every vessel subject to quarantine immediately on her arrival, and make strict inquiry into the health of the crew and passengers, and into the state and condition of the vessel and cargo; and in the discharge of his duty he may put all such questions to the persons on board as he shall judge necessary and proper to enable him to ascertain the condition of the vessel and the quarantine to which she ought to be subject; and the persons to whom such questions shall be put shall, if required, answer the same under oath, which the quarantine physician is hereby authorized to administer.

SEC. 4. When the detention prescribed for any vessel has expired, if the quarantine physician shall judge the vessel and cargo free from infection, he shall relieve the vessel from detention; but no vessel shall be allowed to remove from the quarantine ground without a written permit from the quarantine physician.

SEC. 5. No lighter or vessel shall be employed to unload vessels at the quarantine, or to remove any of the passengers or crew therefrom without the permission of the quarantine physician when they may be subject to such restrictions as may be imposed by the quarantine physician: *Provided*, That all mails may be landed at the earliest period deemed safe by the quarantine physician.

SEC. 6. The master or other officer in command or clerk of every vessel arriving at the quarantine ground shall make a report in writing to the quarantine physician of the name, age, and last legal residence of every passenger or hand on board of such vessel; and no such hand or passenger shall be allowed to leave the vessel without the written permission of the quarantine physician.

SEC. 7. The master, owner, or consignee of every vessel subject to quarantine shall forthwith, upon the requisition of and under the di-

rection of the quarantine physician, cause such vessel, her cargo and clothing, to be purified, and shall cause such vessel to be fumigated, aerated and purified, according to the directions of the board of health, when required by the quarantine physician, at the expense of said vessel.

SEC. 8. The quarantine physician, under the directions of the board of health, if it be deemed necessary to prevent infection or contagion, may cause any bedding or clothing on board a vessel subject to quarantine, or any portion of her cargo that he may deem infected, to be destroyed.

SEC. 9. Any master of a vessel who shall either give false information relative to the condition of his vessel, crew, passengers, or cargo, or refuse to give such information as shall be lawfully required, or who shall land any person from his vessel, or unload or transship any portion of his cargo before his vessel shall have been visited or examined by the quarantine physician, shall be guilty of a misdemeanor, and for each offense shall be fined in a sum not exceeding one hundred dollars.

SEC. 10. Any person who shall willingly or knowingly oppose or obstruct the quarantine physician in performing his duties herein required of him, shall be guilty of a misdemeanor, and, on conviction, shall be fined for each offense not exceeding one hundred dollars, and may be imprisoned for a period not exceeding fifteen days.

SEC. 11 (as amended and passed November 6, 1877). Any master of a vessel subject to quarantine, arriving in the bay from the sea, who shall refuse or neglect either, first, to proceed with and anchor his vessel at the place assigned for quarantine at the time of his arrival; second, to submit his vessel, cargo, and passengers to the examination of the quarantine physician, and to furnish all necessary

information to enable that officer to determine at what length of quarantine and other regulations they ought respectively be subject to; third, to remain with his vessel at quarantine during the period assigned for her detention, and whilst at quarantine to comply with the directions and regulations hereof and with such orders as the quarantine physician, by virtue of this article, may give, shall be liable to a fine of one hundred dollars or fifteen days' imprisonment, and every other person obstructing said officer in the discharge of his duty shall be liable to a like penalty. All drummers, persons running market-boats, and all other persons, are prohibited from going on board of any vessel that arrives in the harbor of Galveston during quarantine season until after the inspection of such vessel by the quarantine officer. Any person violating the provisions of this section shall be fined not less than twenty-five nor more than one hundred dollars for each offense.

SEC. 12. That the pilots of this port shall notify all vessels coming from ports declared infected by the quarantine physician of the existence of the order, and shall bring such vessels to anchor at the quarantine station, or outside the bar, for examination by the quarantine physician; and no vessel from any infected port shall be brought to the city by the pilots, or beyond the quarantine station, without permit from the quarantine physician, and any violation of this provision by any pilot shall subject such pilot to a fine of one hundred dollars.

SEC. 13. * * * *

SEC. 14. Article 1, Chapter XXXIII of the Revised Ordinances is hereby repealed.

SEC. 15. That this ordinance take effect and be in force from and after its passage and due publication.

Passed April 3, 1877.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JULY 19, 1879.

[No. 3.]

NOTES FROM MINUTES OF EXECUTIVE COMMITTEE.

The following is a brief summary of the action of the Executive Committee at its recent meetings:

Ordered, That the secretary be directed to send a communication to each city which is furnishing the Board with mortuary reports, requesting information as to whether a burial permit is required before a burial is allowed.

It was further ordered, that as soon as the above information was received the weekly mortuary reports be so prepared as to show which cities require burial permits and which do not, as in the one case the statistics are reliable and in the other they are almost worthless.

Ordered, That the secretary be directed to request Sanitary Inspector M. S. Craft, of Jackson, Miss., to proceed at once to inspect the towns on the line of the railways leading north from New Orleans, which suffered from yellow fever last year, such as Grenada, etc., and to examine carefully whether any suspicious cases have occurred this season—cases which, though not reported as yellow fever, might be that disease—and that he keep the Board advised in case any outbreak is reported in the northern part of Mississippi.

THE YELLOW FEVER COMMISSION appointed by the National Board of Health to visit Havana, for the purpose of investigating yellow fever in Cuba, arrived at that port on the 7th instant, and immediately set to work upon the important duties intrusted to them. Weekly reports from the Commission are expected, and all important information furnished will be published from time to time in the BULLETIN. They report that yellow fever is quite prevalent and fatal, the number of deaths for the past week being estimated at sixty.

THE REPORTS from Little Rock, Ark., and Sonora, Cal., for July 5 were received too late for the last number of the BULLETIN. Sonora, with a population of 1,500, reports no deaths. Little Rock, population 20,000, reports 12 deaths (7 under 5 years)—cerebro-spinal fever, 1; consumption, 2; diarrhoeal diseases, 3; malarial fevers, 5. Rate per 1,000, 31.2.

THE RULES AND REGULATIONS recommended by the National Board of Health have been adopted by the State boards of health of Louisiana, Mississippi, and Tennessee. The action of other State boards throughout the South will be reported in the BULLETIN as soon as ascertained.

REPORT OF DR. R. W. MITCHELL.

To the National Board of Health:

GENTLEMEN: In compliance with a resolution adopted by your Board April 3, 1879, appointing me "a special committee to prepare a plan of organization for relief in the case of an epidemic of yellow fever in an inland town or city, to include the organization of medical relief and of nurses," I would respectfully submit the following report:

The purpose of your resolution being to prevent needless loss of life, by an organized system for prompt and efficient assistance to communities invaded by yellow fever, I would suggest the following outlines of a plan for the organization of a Volunteer Medical Relief Corps:

1. That local organizations be formed under the auspices of municipal or county medical societies or boards of health, by the volunteer enrollment of names of physicians who have had yellow fever, and are experienced in its treatment, and who will agree to respond promptly when their assistance is demanded, either by the local, or by the central, or national organization hereinafter provided for.

2. Upon such enrollment being made, the members to proceed at once to a permanent organization, adoption of rules and regulations for its local government, election of a medical director and such other officers as may be deemed expedient.

3. The medical director to control and direct the medical department of the organization.

4. When or more local organizations have thus been formed, a central organization then to be created by a representative vote of the several local organizations.

5. The central organization to be composed of not more than three members, of whom one shall be chosen as the general medical director of all the organizations.

6. That all calls for medical aid and nurses be made through the central organization, which shall, upon demand, detail from one or more of the local organizations such number of physicians and nurses as may be required.

7. The local organizations to keep a roster of nurses possessing certain qualifications, to wit, sobriety and good moral character, ability to read and write and to keep a record of the clinical thermometer, and to skillfully administer *enemas*.

In cities and localities which are frequently invaded by yellow fever, the local medical staff is usually, if not always, competent to care for the sick. It is only in communities which are rarely visited, and in which large numbers are unprotected by previous attack, that the need for additional aid is urgently felt. In such places the physicians are not only unprotected, but the demands

made upon them by friends and acquaintances in various localities at the same moment involve loss of time, and prevent anything like systematic effort in combating the disease. It has rarely happened that cities on the Atlantic coast have been invaded by the yellow fever the same season with those on the Gulf, consequently a certain number of physicians, under the plan proposed, can be furnished by one to the other during the prevalence of an epidemic, without material inconvenience and with system and dispatch.

Most if not all of the Southern cities and towns have relief organizations usually known as "Howard associations," for the purpose of furnishing medicines, subsistence, and attention to the sick. Heretofore they have been separate and independent, acting without concert and having no central directorship.

Where such associations already exist, co-operation might easily be effected, and the above plan practically carried out by ingrafting the medical department thereon by the simple enrollment of the medical membership with the Howard Association, the latter retaining its own organization and identity, and yet the two thus united be under the directorship of the local medical director and of the President of the Howard Association, and the whole under the directorship of a central organization.

I have merely outlined the formation, purposes, and government of the two organizations, local and central; the details thereof being deemed unnecessary in this report.

R. W. MITCHELL, M. D.,
Committee.

Read, accepted, and ordered to be printed.

Reports of mortality in cities of the United States for the week ending July 12, 1879.

Places.	Cerebro spinal fever.	Consumption.	Diarrhœal diseases.	Dysentery and trop.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small pox.	Stun-strokes.	Typhoid and typhoid fevers.	Whooping cough.	Yellow fever.	Deaths under 5 years.	Total number of deaths.	Population.	Annual death rate per 1,000.	
Albany, Pa.	1	2	13	1											1		19	24	7,500	16.6	
Augusta, Ga.		1	3														5	8	26,574	15.5	
Baltimore, Md.		19	65				5		6		7				1	42	114	190	400,000	24.7	
Bath, Me.																		2	10,000	10.4	
Brighton, N. Y.			1															3	15,000	8.7	
Boston, Mass.		32	140	10	2		15				1			2			37	103	365,000	11.3	
Brooklyn, N. Y.		1	2		1										1	4	211	323	565,000	29.7	
Burlington, Iowa.		2	2														3	8	30,000	13.9	
Cambridge, Mass.							3										31	13	50,000	13.5	
Charleston, S. C.		1	15					1									31	60	57,000	19.4	
Chattanooga, Tenn.	3	6	27	10			3			1	8						179	243	400,000	27.5	
Chicago, Ohio.		9	14	4	1		2								4		97	152	280,000	28.2	
Cincinnati, Ohio.		4	13							3	9						24	62	162,000	21.8	
Cleveland, Ohio.		1															1	3	5,688	27.5	
Columbia, S. C.		17	43				1	2							2		70	118	160,000	38.3	
Columbus, Ohio.		1															2	6	30,000	10.4	
Danbury, Conn.		3	4	1														1	3	5,500	28.2
Denville, New Jersey.	1	11	18	3				1	1								20	32	32,000	59.4	
Detroit, Mich.		1	1						2								60	96	129,000	25.0	
Evansville, Ind.		2							2								3	7	7,500	41.6	
Galena, Mo.		20								1	1				2		23	30	10,000	36.4	
Hammond, Iowa.		1	1	2													2	7	61,000	25.6	
Hartford, Conn.		1	4	9	1												15	20	24,000	27.3	
Haverhill, Mass.		6													1		13	21	40,000	27.3	
Hempstead, N. Y.		7	19	1											1		9	13	20,000	33.8	
Hingham, Mass.	1	3	6		1						1						30	71	175,000	21.1	
Hingham, N. Y.																	6	16	32,000	16.0	
Hingham, Wis.																	1	2	7,500	14.9	
Hingham, Pa.			6				1		6								12	31	40,000	40.3	
Hingham, N. J.			5	1													10	30	115,000	13.6	
Hingham, N. C.		18	5				11	20							1		7	19	40,000	24.7	
Hingham, N. S. C.		3	4				1	1										9	49	5,466	43.6
Hingham, N. Y.	1	3															9	17	27,055	32.7	
Hingham, Mass.																		1	3	9,500	16.4
Hingham, N. C.		3	1							2							3	9	27,000	15.6	
Hingham, Conn.		2	6		1												12	4	7,500	27.8	
Hingham, N. Y.		1															12	25	60,000	21.7	
Hingham, N. Y.		1	1					3									7	12	17,568	35.5	
Hingham, N. Y.		1	2														5	15	24,000	32.5	
Hingham, N. Y.		1															4	10	16,653	34.2	
Hingham, N. Y.		1															7	9	30,000	15.6	
Hingham, N. Y.		1																2	12,000	8.7	
Hingham, N. Y.		1	34	6					2	3	10			6	4		203	425	817,448	27.0	
Hingham, N. Y.		1	1												2		12	92	145,500	33.0	
Hingham, N. Y.		1	6	7														12	5	10,000	22.4
Hingham, N. Y.											1						15	37	101,500	18.9	
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Monthly mortality reports of United States cities for March, April, May, and June, 1879.

Places.	Months.	Cerebro-spinal fever.	Consumption.	Diarrhoeal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Smallpox.	Stomach.	Typhoid and typhoid fevers.	Whooping cough.	Yellow fever.	Deaths under 5 years.	Total number of deaths.	Population.	Annual death rate per 1,000.
Rochester, N. Y.	March	1	27	1	4	4	38	1	2	1	1	26	9	136	81,864	19.9					
Burlington, Vt.	April	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16,500	16.0
Rochester, N. Y.	do	31	5	10	2	3	14	3	1	1	1	35	136	81,864	19.9						
Albany, N. Y.	May	13	3	5	1	4	11	1	1	1	1	21	85								
Buffalo, N. Y.	do	4	17	3	15	1	4	5	3	13	1	57	100							150,000	15.4
Burlington, Vt.	do	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16,500	16.0
Chattanooga, Tenn.	do	2	1	1	1	1	2	1	1	1	1	10	25							12,000	30.0
Chicago, Ill.	do	10	64	16	44	5	10	59	3	12	32	11	44	228	555	400,000	14.5				
District of Columbia	do	1	32	9	5	3	7	72	4	4	10	126	296							160,000	22.2
Hudson County, N. J.	do	31	8	10	2	7	39	1	2	2	30	4	163	209						163,000	32.1
Lansing, Mich.	do	1	1	1	1	1	2	1	1	1	1	5	7							8,720	9.6
Milwaukee, Wis.	do	1	16	5	24	3	11	1	4	2	1	58	130							123,000	12.7
Minneapolis, Minn.	do	1	2	1	10	1	9	4	7	4	2	38	64							52,000	14.8
Nashville, Tenn.	do	11	7	1	1	1	4	2	1	1	1	16	49							27,055	21.7
New Haven, Conn.	do	11	1	1	1	3	5	1	1	1	1	15	64							60,000	12.8
Norfolk, Va.	do	6	2	1	1	1	2	4	3	4	1	25	49							24,000	24.5
Plattsburgh, N. Y.	do	4	4	1	1	1	1	1	1	1	1	8	16							9,000	21.3
Providence, R. I.	do	26	3	2	1	4	14	1	1	1	10	41	152							101,500	18.0
Rochester, N. Y.	do	1	16	2	5	3	10	1	1	1	1	31	78							81,864	13.0
Shelby County, Tenn.	do	16	1	1	1	1	4	5	1	1	1	28	77								
Saint Paul, Minn.	do	5	3	1	1	1	5	1	1	1	1	15	37								
Salt Lake City, Utah	do	1	1	1	1	1	3	1	1	1	1	1	1								
Salt Lake City, Utah	do	2	65	14	15	4	38	1	4	4	1	123	370							200,000	14.8
Selma, Ala.	do	4	1	1	1	1	1	1	1	1	1	4	11							7,070	18.7
Toledo, Ohio	do	1	5	1	2	1	5	1	4	4	1	32	57							60,000	11.4
Chattanooga, Tenn.	June	31	6	1	1	1	1	1	1	1	1	32	43							12,000	14.0
Lansing, Mich.	do	1	2	1	1	1	1	1	1	1	1	3	9							8,720	12.4
Natchez, Miss.	do	1	1	1	1	1	1	1	1	1	1	9	14							9,500	11.4
New Haven, Conn.	do	17	9	2	1	1	4	1	1	1	1	36	85							60,000	17.0
Plattsburgh, N. Y.	do	1	3	7	1	1	1	1	1	1	1	6	13							9,000	17.4
Providence, R. I.	do	1	14	6	12	3	12	1	1	4	1	32	120							101,500	14.2
Richmond, Va.	do	1	1	1	1	1	1	1	1	1	1	3	13							80,000	19.5
Rochester, N. Y.	do	16	5	3	1	1	3	1	1	1	1	40	124							81,864	17.8
Salt Lake City, Utah	do	1	1	1	1	1	3	1	1	1	1	4	13								
Toledo, Ohio	do	4	1	1	1	1	1	1	1	1	1	25	54							60,000	10.8
Total		26	471	136	200	16	73	361	32	16	11	119	6	1	20	24	1,140	5,310			

Foreign monthly mortality reports for February, March, April, and May, 1879.

New Zealand, eight towns	February	37			13		1		3	6	80	89,782	46.7	
do	March	32	2		9				1	1	41	89,782	46.7	
New Zealand, Auckland	April	3			2				1	4	21	14,163	17.8	
Ghent	do	76	1		24				12		388	130,005	35.8	
New Zealand, four towns	do	14	27						13	5	57	124	71,077	21.6
Ghent	May	57	2		48	18	1		3		297	130,005	27.4	
Havana.	do	138	40	4		21	22	4		96	19	10		
Total														

* Only for the diseases given.

EXTRACTS FROM SANITARY INSPECTOR'S REPORTS.

Dr. E. M. Wight reports, under date of July 11, 1879, as follows:

The quarantine as at present conducted at the port of Mobile, Ala., is of a temporary and inefficient character. The charter of the city of Mobile has recently been repealed by the legislature of the State, and the port is now under the government of a board of police commissioners. The quarantine is under the management of the board of health of Mobile, but with no other means provided for its support than barely enough to pay small salaries to one quarantine physician and two boatmen.

This officer is now stationed at Fort Morgan, on the opposite or east side of Mobile Bay, thirty miles from the city. There is no hospital, no warehouse, no beds, bedding, or hospital supplies of any kind. The physician has quarters for himself and boatmen in an old government house near Fort Morgan, and makes use of the old Fort Morgan wharf.

The quarantine regulations of the port "orders" the treatment of the sick in hospital, but I am told by the president of the board of health, Dr. Geo. A. Ketchum, and by the health officer, Dr. T. Sidney Seales, that in the event of the appearance of yellow fever on board any vessel arriving here, the vessel would be detained at quarantine and all the persons on board would be kept on the vessel, and the

sick would be treated there by the quarantine physician: \$5 per day being charged the vessel for each and every case so treated. So far, fortunately, no cases of yellow fever have arrived here this season, but they are likely to be brought in any day.

The board of health is fully alive to the importance of better quarantine facilities, and has repeatedly petitioned the local authorities for means to perfect the quarantine without avail.

There are two ship entrances to the bay; one, the eastern, is accommodated by the present boarding station, so far as the boarding and inspection of vessels goes; but the other, which is called Grant's Pass, or the West Channel, and is ten or twelve miles from the present station, is without supervision, and vessels may easily pass through there and go up to the port without the knowledge of the boarding officer. An officer should be stationed at this pass, and all vessels should be ordered to proceed to the quarantine station on the other side of the bay for inspection, or this officer should be a medical officer empowered to make the inspection.

The Mobile board of health is now engaged in an effort to cause the commissioners to adopt the quarantine regulations recommended by the National Board of Health.

For the security of the port and the country contiguous to it and the accommodation of commerce, it is clear that some new regulations should be adopted and better facilities afforded.

I made a careful inspection of various points for a quarantine station which would be sufficient for the whole bay, but found none so well adapted to the purposes as the present station, which should be supplemented by the establishment of an auxiliary station at Grand's Pass.

I have thought it unnecessary to make any very extended report upon this port until such time as the local authorities shall take such action as is now contemplated and in progress; after that is done, I think it would be well for the National Board to send an inspector here to report upon the "condition and wants" of the quarantine as it then exists.

THE YELLOW FEVER.

The following dispatches from Dr. R. W. Mitchell, member National Board of Health, have been received:

MEMPHIS, July 9.

One sporadic case verified by *post-mortem*.

MEMPHIS, July 10.

Five cases and two deaths, confined to two families. Precautions taken. No new cases to-day. * * *

MEMPHIS, July 11.

Nothing additional to report this morning. * * *

MEMPHIS, July 12.

Not dangerously infected yet. No new cases in last seventy-two hours. Dr. Plunkett is organizing train inspection. * * *

MEMPHIS, July 13.

No new cases since last report.

MEMPHIS, July 14.

No new cases in last ninety-six hours. Dr. Thornton revisited two cases and threw them out of report. * * * I have seen six cases in all. My opinion, due to survival of germs from last year.

MEMPHIS, July 15.

No new cases since last report. No evidence of dangerous infection.

MEMPHIS, July 16.

No further developments since yesterday's report. Railroad inspection has this effect on quieting apprehensions on lines of travel. State board has not ordered steamboat inspection yet. If one is done, both should be.

MEMPHIS, July 17—10 21 a. m.

No new cases reported by board of health this morning. *Can grand malis*.

MEMPHIS, July 17—2 56 p. m.

Secretary of local board here reports five cases and one death since my telegram this morning.

MEMPHIS, July 17—5 25 p. m.

Five cases and one death reported to-day—all in one house—200 yards from the Ray cases. Can trace no connection between the two.

MEMPHIS, July 18—10 a. m.

Two new cases reported this morning.

MEMPHIS, July 18—8 30 p. m.

Report "dangerously infected."

MEMPHIS, July 19—12 Noon.

Six new cases since last report and spreading.

The following dispatch has been received from Dr. J. D. Plunkett, President of the State Board of Health of Tennessee:

NASHVILLE, July 18.

The "Regulations for securing the best sanitary condition of steamboats and other vessels," was placed in practical operation at Memphis yesterday. Two new cases reported this morning. Outlook not good, and weather unfavorable in Memphis. Rules working smoothly on railroads.

The following dispatch has been received from Dr. J. H. Ranch, President of the State Board of Health of Illinois:

CAIRO, Ill., July 18.

Cairo board of health has adopted regulations recommended by the National Board of Health.

The following dispatches relative to reported appearance of yellow fever at Water Valley, Miss., were received at the dates given:

WATER VALLEY, July 11.

One sporadic case of yellow fever died here this morning.

H. A. GAUT,

Secretary Yalabusha County Board of Health.

WATER VALLEY, July 13.

No new or suspected cases.

H. A. GAUT.

NEW ORLEANS, July 13.

Dr. Herrick now at Water Valley. He will make thorough investigation, and report. Will telegraph you important changes. Healthy here. Everything working passably well.

S. M. BEMISS,

Member National Board of Health.

NEW ORLEANS, July 14.

Dr. Herrick returned. No proof that the case at Water Valley was yellow fever. No other cases there; healthy here.

S. M. BEMISS,

Member of National Board of Health.

The following is the latest information from New Orleans:

NEW ORLEANS, July 18.

No cases reported here.

S. M. BEMISS,

Member National Board of Health.

OPINION OF ATTORNEY-GENERAL OF MISSISSIPPI IN REFERENCE TO LOCAL QUARANTINE.

OFFICE MISSISSIPPI STATE BOARD OF HEALTH,

Jackson, Miss., June 12, 1879.

DEAR SIR: I respectfully request your opinion as to whether the boards of supervisors of counties or the governments of incorporated towns have the power to prevent the passage or running of railroad trains within their jurisdiction in order to prevent the introduction or spread of yellow fever or other contagions or infectious diseases. Your opinion on this question is sought with special reference to quarantines that may be established to prevent the introduction and spread of yellow fever. The question in this connection is one of great interest, for if such power is possessed, one important factor (railroad trains) in introducing epidemics into our State from neighboring States might be removed.

Please also inform me if the same authorities have the power to prevent the running or passage of water-craft.

Very truly, yours,

WIRT JOHNSTON,

Secretary and Executive Officer Mississippi State Board of Health.

Hon. T. C. CATCHINGS,

Attorney-General.

VICKSBURG, June 14, 1879.

DEAR SIR: Yours of the 12th instant received. Under section 2739 of the Code it would be extremely difficult to place a limit upon the power of the boards of supervisors and the corporate authorities of cities and towns in adopting measures to prevent the introduction or spread of yellow fever and other diseases. The language of that section is extremely broad, and would, I think, warrant the stopping of trains and the landing of vessels, if deemed necessary or expedient to prevent the introduction or spread of diseases.

The power conferred by this statute is, in my judgment, broad enough to cover any measure deemed expedient and proper.

Quarantine regulations and health laws of every description, being regulations of police, are clearly within the sovereign power of the States; do not violate any constitutional provision; are sustainable even if they affect commerce incidentally, and have generally passed unchallenged. I have no doubt of the validity of the statute men-

tioned, whether viewed from a constitutional standpoint or otherwise.

Possessing the power itself, the State can execute it either directly or through the agency of counties and towns.

Respectfully,

T. C. CATCHINGS.

Dr. WIRT JOHNSTON,

Jackson, Miss.

MISCELLANEOUS.

Dr. JOHN BLANKINSHIP reports, under date of July 12, 1879, that the health of the town of Maryville, Tenn., is excellent; only one death during the month of June and two deaths up to date in July, in a population of 1,200. Two of the above were negroes, and the other an old lady of 78 years.

IN THE following towns not more than two deaths from any of the diseases specified in the tables are reported:

Abbeville, Minn., population 300; consumption, 1. Battle Creek, Mich., 7,500; puerperal fever, 1. Bay City, Mich., 15,000; malarial fever, 1. Beloit, Wis., 5,000; malarial fever, 1. Brunswick, Ga., 5,000; malarial fever, 1. Burlington, Vt., 16,000; diarrheal disease, 2. Milford, Mass., 10,000; diarrheal disease, 1. Newburyport, Mass., 13,500; lung disease, acute, 1. Niles City, Mich., 1,630; puerperal fever, 1.

THE FOLLOWING towns send reports of *no deaths* during the week ending July 12 from any disease specified in the mortality tables:

Banger, Me., population 20,000; Bridgeton, N. J., 8,000; Bridgewater, Mass., 3,650; Concord, N. H., 11,000; Edgarton, Mass., 1,700; Hernando, Miss., 1,100; Hastings, Mich., 4,500; Inka, Miss., 1,000; Morton, Miss. (population not given); Murfreesborough, Tenn., 4,000; Okolona, Miss., 3,000; Pontotoc, Miss., 600; Paducah, Ky., 10,000; Pass Christian, Miss., 4,000; Richmond, Ind. (population not given); Waynesborough, Miss., 800.

ACTS ESTABLISHING AND REGULATING QUARANTINE FOR THE PROTECTION OF THE STATE OF LOUISIANA.

AN ACT to establish quarantine for the protection of the State.

SECTION 1. *Be it enacted by the senate and house of representatives of the State of Louisiana in general assembly convened,* That there shall be a quarantine established below the city of New Orleans, on the river Mississippi, at a distance of not less than seventy miles by the river from the city; that the board of health to be elected under this act is hereby authorized to locate the quarantine ground, to receive the transfer of the necessary land in the name of the State, and to draw upon the treasurer of the State for the necessary amount, out of the fund appropriated under this act: *Provided,* The consent of the governor of the State is given to said purchase.

SEC. 2. *Be it further enacted, &c.,* That there shall be a board of health, composed of nine competent citizens of the State, to be elected as follows: Three by the council of New Orleans on joint ballot, and six to be appointed by the governor, by and with the advice and consent of the senate. The said members shall be selected in reference to their known zeal in favor of a quarantine system. All the members of the board shall be commissioned by the governor for the term of one year, after having filed and subscribed in the office of the secretary of State an oath well and truly to enforce and comply with the provisions of an act entitled "An act to establish quarantine for the protection of the State"; and in case of neglecting or failing to comply with the above required oath within ten days after their appointment or election, their office shall be considered vacated.

SEC. 3. *Be it further enacted, &c.,* That the board of health shall meet once a month from the first of November to the first of June, and once a week from the first of June to the first of November, and as often as they may deem necessary.

SEC. 4. *Be it further enacted, &c.,* That the board of health shall meet and organize on the third Monday in April, and elect out of their own number a president, whose duty it shall be to reside in New Orleans and superintend the different quarantine stations of the State; and it shall be his duty to visit them as often as the board of health shall deem necessary. He shall have the power to issue during the adjournment, to constables or the sheriff, all orders and warrants provided by the provisions of this act, and shall report to the attorney-general all violations of the same. It shall be his duty to lay before the board at each meeting the business to be transacted, and a book, in which he shall enter copies of all letters written by him, orders and warrants issued, and a detail of all his acts. He shall present at each meeting all communications forwarded to him, and a report of the resident physicians and treasurers, and perform such other duties

as shall be assigned to him by the board of health. He shall only be removed by impeachment, and shall receive a salary of two thousand dollars a year.

SEC. 5. *Be it further enacted, &c.,* That four members of said board shall form a quorum: *Provided, however,* That no contract for building shall be entered into without the consent of a majority of the board.

SEC. 6. *Be it further enacted, &c.,* That the board of health shall authorize the resident physician to employ, in case of need, an assistant physician at the quarantine ground on the Mississippi River, who shall act as his deputy, and whose salary shall not be more than two thousand dollars a year. The board of health shall have power to employ nurses and assistants to attend the sick, and such other persons as may be necessary to carry out proper quarantine regulations, and to fix their compensation; to fix the number of days of quarantine for vessels liable to it under sections ninth and thirteenth of this act, not to be less than ten days; to determine how said quarantine shall be performed, and to make out all legal regulations not provided by this act nor contrary to the same, and necessary to carry out a proper system of quarantine, and to enforce the same by a fine not exceeding five hundred dollars; to make rules and regulations for preserving good order and police within the limits of the quarantine ground, and to impose penalties for the breach thereof; to contract for the necessary buildings at the quarantine grounds; to appoint a secretary, who shall act as the board's clerk, whose salary shall be fifteen hundred dollars a year, and who shall furnish security in a sum of ten thousand dollars. It shall be his duty to keep a minute of the proceedings of the board and all vouchers and expenditures made by authority of said board. The board of health shall have power to remove or cause to be removed any substance which they may deem detrimental to the health of the city of New Orleans, and the commissioners of the streets shall execute their orders, whenever not in conflict with the ordinances of the city or the laws of the State; to pass and enforce sanitary ordinances for the city, provided the same are approved by the council and published as city ordinances; to define the duties of officers employed by them, and impose additional duties to officers appointed under this act; to issue warrants to any constable, police officer, or sheriff in the State; to apprehend and remove such person or persons as cannot be otherwise subjected to the provisions of this act, or who shall have violated the same, and whenever it shall be necessary so to do, to issue their warrant to the sheriff of the city or parish where any vessel may be, having violated the provisions of this act, commanding him to remove said vessel at the quarantine ground and arrest the officers thereof, all which warrants shall be executed by the officer to whom the same shall be directed, who shall possess the like powers in the execution thereof, and be entitled to the same compensation as if the same had been duly issued out of any court of the State. The governor shall appoint a police officer to be designated as marshal, who shall be under the control of said board of health, and reside at the quarantine station, on the Mississippi River, whose duties and powers shall correspond to those of a sheriff or constable, so far as regards the execution of warrants and arrests of persons for violation of said quarantine regulations, and for said services shall receive the annual allowance of one thousand dollars.

SEC. 7. *Be it further enacted, &c.,* That there shall be a quarantine station at some point on the Rigolettes, and another on the Atchafalaya River, two miles below "Pilot's Station," at the north of the Wax Bayou; the board of health is hereby empowered and it shall be their duty to locate them agreeably to the provisions of this section; but the provisions of this act shall only apply to the station at the Rigolettes from the day of the issuing of the proclamation of the governor as provided by section thirteenth, declaring any port on the lake shore or on the Gulf of Mexico to be an infected place, and shall remain in full force until suspended by a vote of two thirds of the members of the board of health. The provisions of this act shall apply to and be enforced at the quarantine station on the Atchafalaya River, from the first of May to the first of November of each year, and also when the governor shall have issued his proclamation, as provided by the thirteenth section; and in such a case shall remain in full force until suspended by a resolution voted for by two thirds of the members of the board of health. There shall be no permanent building erected at Pilot's Station, on the Atchafalaya River, but the board of health shall use as an hospital for the reception of the sick, hulls and cabins of steamboats. The board of health shall employ an officer, whose duty it shall be, and who is hereby empowered, to require from captains of vessels, steamboats, or crafts having passed the station at the Rigolettes, or on the Atchafalaya River, the permit of the resident physician. The board of health shall appoint a resident physician for each of the two quarantine stations on the Rigolettes and on the Atchafalaya, and such other persons as may be necessary: *Provided,* Their salary shall run only during such time as they shall thus be employed, and shall in no case exceed for the time they shall have been thus employed the salary of the same officers at the quarantine station, for the same space of time, on the Mississippi.

SEC. 8. *Be it further enacted, &c.,* That the resident physician of the quarantine ground shall receive a salary of five thousand dollars (\$5,000), and shall be appointed by the governor of the State, by and with the advice and consent of the senate, and removable at pleasure. It shall be his duty to visit every vessel coming from any port and entering the mouth of the Mississippi River. He shall require the

captain of every vessel thus inspected to pay the following fees: For every ship, bark, or sea-going steamer, the sum of twenty dollars, and fifteen for all other vessels: *Provided*, Nothing contained in this section shall apply to any vessel or craft going from New Orleans to sea and returning without having touched at any port or at the quarantine, towboats excepted. To all vessels not coming from any infected district, as provided by section thirteen, or not having on board patients affected with cholera, yellow fever, pestilential, contagious, or infectious diseases, or not in a foul condition, a certificate to that effect shall be given. It shall be his duty to return to the secretary of the board of health a weekly list of vessels by him inspected, together with the amount collected for such inspections, which shall form a fund for the support of the quarantine.

SEC. 9. *Be it further enacted, &c.*, That the resident physician shall have the power, and it shall be his duty, to detain at the quarantine ground, with their cargoes, crews, and passengers, all vessels coming from an infected district, as provided by section thirteen, or in a foul condition, or having on board persons affected with cholera, yellow fever, pestilential, contagious, or infectious diseases, during such time as he may deem necessary—not less than ten days—to compel the captain to land the sick at the quarantine ground, to fumigate and cleanse all such vessels, and to submit to such rules and regulations as will be hereafter provided by the board of health; and that all costs incurred for vessels found in a foul condition, including the sum of five dollars for the support of each and every sick person landed at the quarantine station, shall be borne by the captain and owners, and shall be paid to the resident physician before a certificate, as provided by section eight, shall be given.

SEC. 10. *Be it further enacted, &c.*, That the resident physician shall have such other powers as may be delegated to him by the board of health, not contrary to the provisions of this act and necessary to carry them into effect. It shall be his duty to remain at the quarantine ground, attend the sick, and perform all such other duties as may be required of him by the board of health.

SEC. 11. *Be it further enacted, &c.*, That the board of health shall appoint a treasurer for the quarantine ground on the Mississippi River, with a salary of fifteen hundred dollars (\$1,500) per annum, and who shall furnish security in the sum of ten thousand dollars (\$10,000). It shall be his duty to attend to the finances, collect all sums of money due by vessels in a foul condition, account and pay over to the secretary of the board of health all moneys and balances in his hands, and shall receive and deliver the freight of all vessels ordered to be unloaded, and perform such other duties as the board of health shall require of him.

SEC. 12. *Be it further enacted, &c.*, That the secretary of the board of health shall deposit in bank all moneys paid over to him, and shall keep a correct account of the same. He shall, moreover, present at each meeting of the board a statement of its affairs, and cause his accounts to be approved by the auditor of public accounts every three months, and shall act as commissary for the purchase of provisions and supplies, and shall deposit in bank all moneys paid over to him, and perform such other duties as the board of health may assign to him.

SEC. 13. *Be it further enacted, &c.*, That the governor of the State shall issue his proclamation, upon the advice of the board of health, declaring any place where there shall be reason to believe a pestilential, contagious, or infectious disease exists to be an infected place, stating the number of days for quarantine to be performed. It shall be the duty of the resident physician to give timely notice to the board of health of the necessity of such proclamation. After such proclamation shall have been issued, all vessels arriving in the port of New Orleans, or at the Rigolettes, or the Atchafalaya Station, from such infected place, shall be subject to quarantine, and shall, together with their officers, crews, passengers, and cargoes, be subject to all regulations passed by the board of health provided by this act. Every master of a vessel subject to a quarantine or a visitation arriving in the port of New Orleans who shall refuse or neglect either, first, to proceed with and anchor his vessel at the place designated for quarantine at the time of his arrival; second, to submit his vessel, cargo, and passengers to the examination of the physician, and to furnish all necessary information to enable that officer to determine what quarantine shall be fixed for his vessel; third, to remain with his vessel at the quarantine ground during the period assigned for her quarantine, and while there to comply with the directions and regulations prescribed by this act, or by the board of health, or with such directions prescribed for his vessel, crew, and cargo and passengers by the resident physician, shall be guilty of a misdemeanor, and be punished by a fine not exceeding two thousand dollars (\$2,000), or by imprisonment not exceeding twelve months, or by both, at the discretion of the court.

SEC. 14. *Be it further enacted, &c.*, That every person who shall violate the provisions of this act by refusing or neglecting to obey or comply with any order, prohibition, or regulation made by the board of health, in the exercise of the powers herein conferred, shall be guilty of a misdemeanor, punishable by fine and imprisonment, at the discretion of the court, by which the offender shall be tried. It shall be the duty of the captain of every towboat towing a vessel subject to quarantine or visitation to leave such vessel at the quarantine ground, and to inform the captain of the penalties attending a non-compliance with the provisions of this act.

SEC. 15. *Be it further enacted, &c.*, That the captain of any sea-going vessel, steamboat, or towboat violating the provisions of this act, or

the rules and regulations established or to be established by the board of health, shall be considered guilty of a misdemeanor, and sentenced to pay a fine not exceeding five hundred dollars and imprisonment not exceeding one year.

SEC. 16. *Be it further enacted, &c.*, That the resident physician shall report to the attorney-general all violations of this act; and it shall be his duty to prosecute all persons or persons thus offending, to collect the fines, and remit the amount thereof to the secretary of the board of health, whose duty it shall be to keep a separate book for fines collected, to be approved of every three months by the attorney-general, who shall receive such compensation as the board may fix for his services.

SEC. 17. *Be it further enacted, &c.*, That it shall be the duty of the harbor masters in their respective districts to demand of the captain of every vessel arriving from sea to New Orleans the permit of the resident physician, and to report to the secretary of the board of health all vessels having entered the port without such permit.

SEC. 18. *Be it further enacted, &c.*, That from the first of May to the first of November all towboats plying from the mouth of the river to New Orleans shall be liable to inspection and quarantine, and it shall be the duty of the different harbor masters to require from the captains of said towboats the certificate of the resident physician, as provided by section eight, which certificate shall not be granted before a detention of at least five days: *Provided*, Nothing herein contained shall be so construed as to apply to towboats plying between New Orleans and the quarantine grounds and no farther.

SEC. 19. *Be it further enacted, &c.*, That the captain of any towboat or steamboat who shall receive on board of his boat freight, goods, or passengers from a vessel liable to inspection or quarantine, or who shall receive goods or passengers from the quarantine ground without the permission of the resident physician, shall be punished by a fine not exceeding two thousand dollars (\$2,000), and by imprisonment at the discretion of the court; and all violations of the provisions of this act, at the quarantine station on the Mississippi River and at the Rigolettes, shall be tried by the criminal court of New Orleans; and all violations of this act at the station on the Atchafalaya River shall be tried by the district court of the parish of Saint Mary.

SEC. 20. *Be it further enacted, &c.*, That the board of health shall cause such extracts of this act to be made as they may deem necessary for the information of the masters of vessels arriving in this State, and shall cause a sufficient number to be printed and delivered to the pilots, to be distributed to the masters of vessels arriving as before provided.

SEC. 21. *Be it further enacted, &c.*, That every pilot, or any other person acting as such, shall deliver to the master of every vessel inward bound one copy of the printed extract from this act, which shall be furnished him by the board of health; and any pilot refusing or neglecting so to do, or aiding or landing any passengers or other person, contrary to this act, shall forfeit one hundred dollars for every offense.

SEC. 22. *Be it further enacted, &c.*, That every person who shall go on board of any vessel while performing quarantine, without the permission of the resident physician or his assistants, shall forfeit the sum of fifty dollars.

SEC. 23. *Be it further enacted, &c.*, That the quarantine stations shall be known by that name, and their limits shall be designated by boards placed on the boundaries, on which shall be printed in large letters: "These are the limits of the quarantine station."

SEC. 24. *Be it further enacted, &c.*, That the sum of fifty thousand dollars (\$50,000) be and is hereby appropriated, out of any money in the treasury not otherwise appropriated, to be paid to the secretary of the board of health, on a resolution of a majority of the board, payable by installments: *Provided*, That the second and third installments shall not be paid until the accounts of the secretary of the board of health shall have been audited and approved by the auditor of public accounts for former disbursements.

SEC. 25. *Be it further enacted, &c.*, That the buildings to be erected at the quarantine station shall consist of, at the stations on the Mississippi River of two separate buildings or hospitals for the sick, of a small house or residence for the officers appointed under this act, and of a well-ventilated store for the reception of the freight of such infected vessels as the resident physician may deem necessary to cause to be unloaded. The buildings at the Rigolettes shall be constructed of wood, and consist of a hospital for the sick and of a store for the freight of vessels or steamboats ordered to be unloaded. At the Atchafalaya Station a good shade shall be provided for the freight of vessels ordered to be unloaded. The board of health shall receive the transfer of such land as may be necessary at the Rigolettes and on the Atchafalaya River in the same manner and under the same conditions as are required by section 1; and all plans, specifications, and contracts for the above buildings shall be submitted to and approved by the governor of the State: *Provided*, That the cost of said buildings shall in no case exceed the amount hereinbefore appropriated.

SEC. 26. *Be it further enacted, &c.*, That it shall be the duty of the council of New Orleans, within ten days after the passage of this act, to elect three members of the board of health, as provided by section second of this act; and all acts, resolutions, and ordinances passed by them after the expiration of the delay herein prescribed, and before the election of the members of the board to be elected by them, shall be null and void.

SEC. 27. *Be it further enacted, &c.,* That the board of health and their successors is hereby created a body corporate under the name of the Board of Health of the State of Louisiana, to sue and be sued under that title.

SEC. 28. *Be it further enacted, &c.,* That all laws or parts of laws inconsistent with the provisions of this act be, and the same are hereby, repealed.

SEC. 29. *Be it further enacted, &c.,* That this act shall take effect from and after its passage.

JOHN M. SANDIGE,
Speaker of the House of Representatives,
ROBERT C. WICKLIFFE,
President of the Senate,

Approved March 15, 1855.

A true copy:

ANDREW S. HERRON,
Secretary of State,

P. O. HERBERT,
Governor of the State of Louisiana.

AN ACT granting to the United States the use of so much land as may be necessary for the construction of warehouses at quarantine station on the Mississippi River below New Orleans, with water-front and privilege of the wharf now built or hereafter to be built at said station, and ceding the United States jurisdiction over the site of such warehouses.

Whereas by the first section of act of Congress entitled "An act making appropriation for certain civil expenses of the government for the year ending the thirtieth June, eighteen hundred and fifty-eight," approved third March, eighteen hundred and fifty-seven, the sum of fifty thousand dollars was appropriated for the construction of warehouses at quarantine station on the Mississippi River below New Orleans: *Provided,* That no part of said sum shall be expended until the State of Louisiana shall pass a law ceding jurisdiction over the site of such warehouses to the United States, and shall grant to the United States the use of so much land as may be necessary for the construction of such warehouses, with water-front and privilege of the wharf now built or hereafter to be built on said station; therefore, in order to comply with said proviso and to carry the said law into full force and effect:

SECTION 1. *Be it enacted by the senate and house of representatives of the State of Louisiana in general assembly convened,* That the State of Louisiana does hereby cede to the United States jurisdiction over the site of such warehouses as shall be constructed under the act of Congress approved the third of March, eighteen hundred and fifty-seven, aforesaid, at quarantine station on the Mississippi River below New Orleans, and doth hereby further grant to the United States the use of so much land as may be necessary for the construction of such warehouses, with water-front and privilege of the wharf now built or hereafter to be built on said station.

SEC. 2. *Be it further enacted, &c.,* That the board of health of the State of Louisiana be, and they are hereby, authorized and required to designate so much land at said quarantine station as may be necessary for the construction of the warehouses aforesaid.

WM. W. PUGH,
Speaker of the House of Representatives,
WM. F. GRIFFIN,
President pro tempore of the Senate,

Approved February 7, 1855.

ROBERT C. WICKLIFFE,
Governor of the State of Louisiana.

A true copy:

ANDREW S. HERRON,
Secretary of State,

AN ACT to exempt from taxation the property at the quarantine station on the Mississippi River granted to the United States for the purpose of building government warehouses.

Be it enacted by the senate and house of representatives of the State of Louisiana in general assembly convened, That the property at the quarantine station on the Mississippi River, located in this State, the use of and jurisdiction over which has been granted by the State of Louisiana to the United States for the purpose of constructing government warehouses, together with the improvements and buildings which the Government of the United States may erect thereupon, shall be, and is hereby, exonerated from all taxation and assessment by the State or by any authorities acting under the State, so long as the said property is in possession of the United States.

WM. W. PUGH,
Speaker of the House of Representatives,
C. H. MOUTON,
Lieutenant Governor and President of the Senate,

Approved March 18, 1855.

ROBERT C. WICKLIFFE,
Governor of the State of Louisiana.

A true copy:

ANDREW S. HERRON,
Secretary of State,

AN ACT supplementary to an act entitled "An act relative to quarantine," approved March 15, 1855.

SECTION 1. *Be it enacted by the senate and house of representatives of the State of Louisiana in general assembly convened,* That the board of

health of the State of Louisiana shall authorize the resident physician of the quarantine station to employ an assistant physician, whose salary shall be two thousand dollars. The board of health shall have power to employ nurses and assistants to attend the sick, and such other persons as may be required to carry out proper quarantine duties, and to fix their compensation. Also, to make all needful rules and regulations for the maintenance of quarantine, and to impose fines not exceeding five hundred dollars for contravention of established rules. The board of health shall have power to remove, or cause to be removed, any substance which they may deem detrimental to the health of New Orleans; and the street commissioners shall execute their orders whenever not in conflict with the ordinances of the city or the laws of the State; to pass sanitary ordinances for the city: *Provided,* Such are approved by the council and published as city ordinances; to define the duties of officers appointed by them; to issue warrants to any constable, police officer, or sheriff in the State; to issue their warrants to the sheriff of the city of New Orleans, or of any parish where any vessel may be, to have such vessel, if they deem it necessary for the protection of health, removed to the quarantine station. The fees of said officer shall be paid by the board of health. The board of health shall have power to extend the period of quarantine should it be deemed necessary by them.

SEC. 2. *Be it further enacted, &c.,* That the resident physician at the quarantine station on the Mississippi River shall receive an annual salary of five thousand dollars (\$5,000), and shall be appointed by the governor of the State, with the consent of the senate, and shall be removable at the will of the governor. It shall be the duty of the resident physician, or his assistant, to visit and inspect every vessel entering the port of New Orleans through the Mississippi River. Vessels free from disease, not in a foul condition, and not from an infected district (which shall be decided upon by the resident physician), shall be furnished with a certificate of health and allowed to proceed to the city. The resident physician shall require for every certificate thus furnished the following fees: Every sailing vessel of one thousand tons and over shall pay thirty dollars (\$30); every ship of one thousand tons or less shall pay twenty dollars (\$20); every bark shall pay fifteen dollars (\$15); every brig shall pay ten dollars (\$10); every schooner shall pay seven dollars and fifty cents (\$7.50); every steamboat (towboats excepted) shall pay five dollars (\$5); every steamship from Florida, Alabama, Mississippi, or Texas, shall pay ten dollars (\$10); every steamship from other ports shall pay twenty dollars (\$20). The resident physician shall return to the secretary of the board of health a weekly list of all vessels inspected by him as well as all fees collected by him, which shall form a fund for the support of quarantine.

SEC. 3. *Be it further enacted, &c.,* That all vessels in a foul condition, or vessels whose crews or passengers are suffering, or have suffered, while on the voyage, from contagious, pestilential, or infectious diseases, shall be detained by the resident physician at the quarantine station such time, not less than ten days, as may be deemed by him necessary. The resident physician shall have power, at his discretion, to grant permits to persons, acclimated and healthy, to proceed to the city. He shall have power to compel the captains of vessels to land their sick at quarantine and to employ such means of purification of the vessel as may be directed by the board of health, and require the captains or owners of said vessels to defray the cost of purification. The captains or owners of vessels shall pay five dollars for such sick person landed, nor shall a permit be issued until the payment of the same to the resident physician, which money shall be appropriated to hospital expenses.

SEC. 4. *Be it further enacted, &c.,* That in cases of emergency the board of health shall have power to issue proclamation of quarantine without reference to the governor, and to enact all needful regulations for the enforcement of the same.

SEC. 5. *Be it further enacted, &c.,* That vessels out ten days from infected ports, presenting clean bills of health, not having nor having had sickness on board, and which are not in foul condition, shall be permitted to pass to the city after thorough fumigation by disinfecting agents, to effect which purpose the resident physician shall detain said vessels as long as he may deem necessary. The resident physician shall, in all such cases, require evidence under oath; and he shall, by this act, be invested with the power to administer oaths whenever he may deem this necessary to attain the objects of quarantine.

SEC. 6. *Be it further enacted, &c.,* That the office of the assistant marshal, as created under the act relative to quarantine, approved March 15, 1855, be, and the same is hereby, abolished.

SEC. 7. *Be it further enacted, &c.,* That all laws or parts of laws contrary to the provisions of this act be, and the same are hereby, repealed.

WM. W. PUGH,
Speaker of the House of Representatives,
C. H. MOUTON,
Lieutenant Governor and President of the Senate,

Approved March 18, 1855.

ROBERT C. WICKLIFFE,
Governor of the State of Louisiana.

A true copy:

ANDREW S. HERRON,
Secretary of State.

AN ACT to amend an act entitled "An act to establish quarantine for the protection of the State."

SECTION 1. *Be it enacted by the senate and house of representatives of the State of Louisiana in general assembly convened,* That the title of an act entitled "An act to establish quarantine for the protection of the State," approved March fifteenth, eighteen hundred and fifty-five, be amended and re-enacted so as to read as follows: "An act to establish quarantine for the protection of the State, to create a board of health, and to define its powers and duties."

SEC. 2. *Be it further enacted, &c.,* That section second of said act be amended and re-enacted so as to read as follows:

There shall be a board of health, composed of nine competent citizens of the State, three to be elected by the council of New Orleans on joint ballot, and six to be appointed by the governor by and with the advice and consent of the senate. The said members shall be selected with reference to their known zeal in favor of a quarantine system. The members of said board shall be commissioned by the governor for the term of one year, after having subscribed and filed in the office of the secretary of state an oath well and truly to enforce and comply with the provisions of said act and this amended act; and in case of neglecting or failing to comply with said required oath within ten days after their appointment or election, their office shall be considered vacant. The said board shall have power to appoint sanitary inspectors, not to exceed six in number, one for each of the four districts of the city of New Orleans, and one for the city of Jefferson, and one for the portions of the parishes of Orleans and Jefferson, situated upon the right bank of the Mississippi River, which said inspectors for the said four districts of the city of New Orleans shall be in place and in lieu of the four health officers now appointed by the council of New Orleans. The annual salaries of each of said inspectors shall not exceed the sum of two thousand four hundred dollars, and said salaries shall be paid by the respective cities and parishes for which said inspectors shall be appointed, the parish of Orleans, right bank of the Mississippi River, paying two-thirds, and the parish of Jefferson, right bank, paying one-third, of the salary of the inspector appointed for said portions of said parishes. Said inspectors shall be subject to removal at the pleasure of said board.

SEC. 3. *Be it further enacted, &c.,* That section six of said act shall be amended and re-enacted so as to read as follows:

SEC. 6. That the board of health shall have power to employ nurses and assistants to attend the sick, and such other persons as may be necessary to carry out proper quarantine regulations, and to fix their compensation; to fix the number of days of quarantine for vessels liable to it under sections ninth and thirteenth of this act, not to be less than ten days; to determine how said quarantine shall be performed, and to make all legal regulations not provided by this act, nor contrary to the same, and necessary to carry out a proper system of quarantine, and to enforce the same by fine not exceeding five hundred dollars; to make rules and regulations for preserving good order and police within the limits of the quarantine ground, and to impose penalties for the breach thereof; to contract for the necessary buildings at the quarantine grounds; to appoint a secretary, who shall act as treasurer, whose salary shall be fifteen hundred dollars a year, and who shall furnish security in the sum of ten thousand dollars. It shall be his duty to keep a minute of the proceedings of the board, and all vouchers and expenditures made by authority of said board. The said board shall have the power to remove or cause to be removed any substance, matter, or thing which they may deem detrimental to health, whether such substance, matter, or thing be in the cities of New Orleans or Jefferson, or in the parishes of Orleans or Jefferson, on the right bank of the Mississippi River, and the respective street commissioners of said cities, and police juries of said parishes, shall, without delay, execute the orders of said board with reference to the removal of such substance, matter, or thing, and the expenses necessarily incurred in making such removal, as well as those incurred for purposes of disinfection and removal of sick persons, shall be borne respectively by said cities and said portions of said parishes from which such removal or wherein such disinfection shall take place. The said board shall have power to pass and enforce, by adequate fine, not in any case to exceed fifty dollars, sanitary ordinances for and within the cities of New Orleans and Jefferson, and the parishes of Orleans and Jefferson, on the right bank of the Mississippi River; and for the purpose of enforcement of said ordinances, as well as of this act and the act entitled "An act to establish quarantine for the protection of the State," and the amendments thereto, the said board shall have power to sue in its own name, in any civil court

having competent jurisdiction, for any fines or pecuniary liabilities imposed by said ordinances, or by said acts or amended acts; and said fines or moneys so recovered shall become a portion of the funds of said board. And should any street commissioner, or street contractor, or any person contracting or employed to clean the streets, after having been duly notified, neglect or refuse to obey any necessary sanitary order or ordinance of said board coming within the purview of this act, such street commissioner or street contractor or person contracting or employed to clean the streets shall be held personally liable, the same as if the matter or thing complained of was by his original fault. The board shall have control of the sanitary police within the aforesaid cities and the said portions of the aforesaid parishes where such sanitary police is upon duty; which force shall at all times consist of not less than one officer for each of the four districts of the city of New Orleans, one for the city of Jefferson, and one for the parishes of Orleans and Jefferson on the right bank of the Mississippi River; and, in case of actual or threatened epidemic, said board shall have power to call upon the board of Metropolitan police for such additional sanitary police force as said board of health shall deem proper. The board of health shall have power to define the duties of officers employed by them, and impose additional duties to officers appointed under this act; to issue warrants to any constable, police officer, or sheriff in the State; to apprehend and remove such person or persons as cannot otherwise be subjected to the provisions of this act, or who shall have violated the same; and, whenever it shall be necessary so to do, to issue their warrants to the sheriff of the city or parish where any vessel may be having violated the provisions of this act, commanding him to remove said vessel to the quarantine ground and arrest the officer thereof; all which warrant shall be executed by the officer to whom the same shall be directed, who shall possess the like power in the execution thereof, and be entitled to the same compensation, as if the same had been duly issued out of any court of the State.

MORTIMER CARR,

Speaker of the House of Representatives.

OSCAR J. DUNN,

Lieutenant-Governor and President of the Senate.

Approved March 16, 1870.

H. C. WARMOTH,

Governor of the State of Louisiana.

A true copy:

GEORGE E. BOVEE,

Secretary of State.

AN ACT to authorize and empower the board of health of the State of Louisiana to detain and disinfect, and to pass after disinfection, vessels from infected ports at and from quarantine stations, in lieu of a time of quarantine detention, in certain cases, and to repeal conflicting laws.

SECTION 1. *Be it enacted by the senate and house of representatives of the State of Louisiana in general assembly convened,* That the board of health of the State of Louisiana be, and is hereby, authorized and empowered, at its discretion, at any time, to cause the detention at quarantine station, for purposes of disinfection and purification, and to disinfect, fumigate, and purify any or all vessels from ports in which yellow fever usually prevails, or from ports where other contagious or infectious diseases are reported to exist, and after such disinfection, fumigation, and purification at quarantine, to permit the passage to the city of New [Orleans] of such vessel or vessels, without any prescribed time of detention, when it is satisfied that the same have been properly and sufficiently disinfected and purified, so that said vessel or vessels may safely be permitted to pass without damage to the public health or risk of contagion.

SEC. 2. *Be it further enacted, &c.,* That all laws or parts of laws conflicting with this act be, and the same are, so far as respects the operation of this act, hereby repealed, and that this act shall take effect from and after its passage.

E. D. ESTILETTE,

Speaker of the House of Representatives.

C. C. ANTOINE,

Lieutenant-Governor and President of the Senate.

Approved, March 21, 1870.

WILLIAM P. KELLOGG,

Governor of the State of Louisiana.

A true copy:

P. G. DESLOINDE,

Secretary of State.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JULY 26, 1879.

[No. 4.]

THE YELLOW FEVER.

The progress of yellow fever during the week ending the 25th is limited to Memphis and Mississippi City. The reported cases at Water Valley have been investigated by inspectors of this Board and verified as not yellow fever. At Memphis the disease has appeared at several separate foci and assumed the character of an epidemic. The result of the spread of the pestilence has created the usual popular alarm and flight of the citizens from the city, with all the attendant suffering and misery. This phase of the epidemic is greatly to be deplored, and the homeless refugees will everywhere receive the sympathy and care which their individual necessities demand. Though this depopulation of the infected localities is an important part of the measures necessary to prevent the progress of the pestilence, it is unfortunate that this movement of masses of people cannot be controlled with something like military precision. The local authorities and voluntary organizations are making the most determined efforts to control the spread of the disease and care for the sick. The methods of procedure have been well matured, and the application of preventive and remedial measures is under the direction of the most experienced physicians of the South. Associated with them is a corps of energetic young men, amply supplied with the necessary means for their special work. Outside of the city of Memphis the greatest activity prevails in the State and local boards of health. The entire Mississippi Valley is, in fact, organized on a common basis of operations to prevent the spread of the epidemic.

THE FIRST CASES OF YELLOW FEVER AT MEMPHIS.

Dr. R. W. Mitchell gives the following account of the first cases of yellow fever at Memphis:

Case I.—The first case was Thomas Mulbrandon, who was taken sick with a chill while at work on July 5; had black vomit on the 7th, and died in convulsions on the 9th, having complete suppression of the urine after the morning of the 8th. The house in which Mulbrandon died is situated near the corner of De Soto and Pontoloe streets, in the southern portion of the city, on an elevated plateau of ground. It is a one-story frame building containing six rooms and well ventilated. The sanitary condition of the premises is most excellent. The privy was well cleaned in May; good drinking-water from a cistern fully 50 feet from privy; drainage excellent. This house was occupied in 1878 by Mr. Holland and family. A son of Mr. Holland was sick in the room in which Mulbrandon died, in the latter part of July, 1878, but his disease is

not known to have been yellow fever. After the recovery of the boy, and at the commencement of the epidemic of 1878, the Holland family removed to a point five miles distant from the city where Mr. Holland died of the yellow fever. The family now returned to the city and remained in the house at present occupied by the Mulbrandons until April 1, the present occupants taking possession May 1, bringing their own household furniture and goods. They did not repaper or whitewash the walls.

The Mulbrandon family were not exposed to the fever during the epidemic of 1878, having moved to Brownsville, Tenn., where they remained until after the epidemic. Mrs. Cunningham, a sister of Mrs. Mulbrandon, came to live with the family May 1, but, as she states, she did not bring any of her bed-clothes.

During the epidemic of 1878 there were seven cases of yellow fever in Mrs. Cunningham's family, six of which were fatal; she nursed three of these cases. The bed-clothes which these persons used were not burned, but, as she says, were thoroughly fumigated with sulphur and exposed to the severe winter for days at a time. Mr. Mulbrandon had not been out of the city since his return after the epidemic of 1878; nor had he been aboard of any steamboat or train; was on the Bluffs to witness the display of fireworks on the night of the 14th. His place of business on Shelby street was not occupied during the epidemic. There is a family living in the same building who had the fever last year, at Camp Williams, and now use the same bed clothing. Fever raged severely around both his shop and residence in 1878. His business and location of shop gave him considerable trade among river men; in fact, his chief daily association was with "river men and roustabouts."

Cases 2 and 3.—The second case was Mrs. Maurice Tobin, white, who was taken ill July 5, with chill followed by fever; had black vomit on the third day and died on the eighth day. The third case was Mr. Maurice Tobin, white, who was taken ill July 7 with chill followed by black vomit on the second day, and died on the fourth day. Mr. and Mrs. Tobin were extremely poor and lived in a very humble way. The house is a one-story frame building situated upon a very elevated piece of ground. The sanitary conditions of the surroundings were excellent. This house was not occupied during the epidemic of 1878, the Tobins having removed at the commencement of the fever to Fayette County, Tenn., where they remained until the close of the season. They had not been outside of the city since their return. No exposure to the disease can be discovered. Mr. Tobin was a harness maker, and had occasion to visit the railroad or river depots. No

cause for the fever can be ascertained. Mrs. Tobin was taken sick within three or four hours of Mulbrandon's attack. Mr. Tobin nursed his wife up to the time of his illness. The distance of Mr. Tobin's house from Mr. Mulbrandon's is about one mile.

Cases 4, 5, and 6.—Judge Ray had a chill July 6, followed by fever; had black vomit, and died on the fourth day. Charlie Ray, aged 12, son of Judge Ray, had chill

followed by fever July 7; had black vomit, and died on the following day. J. E. R. Ray, jr., aged 21, was taken sick July 10; stomach and bowels quiet during illness; kidneys acted freely; urine highly albuminous; eyes yellow and injected. Treatment by ice-pack. Patient recovered. The distance from Judge Ray's house to Mulbrandon's house is about 1,500 feet. Judge Ray was taken sick two days after Mulbrandon.

Report of mortality in cities of the United States for the week ending July 19, 1879.

Places.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Stim. stroke.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.	Deaths under 5 years.	Total number of deaths.	Population.	Annual death rate per 1,000.	
Ann Arbor, Mich.																		1	8,000	6.5	
Albany, N. Y.			15	1														24	30	75,000	30.8
Augusta, Ga.	3	2							1	2								6	23	26,874	44.5
Baltimore, Md.		19	65	2			2		1	1	10				2	4	157	222	400,000	28.9	
Bath, Me.		1																1	2	10,000	10.4
Bloomington, N. Y.		2																2	7	18,000	20.3
Brooklyn, N. Y.				11					5		20							192	331	565,000	30.5
Boston, Mass.		19	33	6			5		1	2					2	5	66	143	365,000	30.4	
Burlington, Vt.		3	4	3														6	9	16,500	29.4
Cambridge, Mass.		1	3	4	3						1							10	17	50,000	17.7
Charleston, S. C.		4	5	1									6					22	59	57,000	53.8
Chattanooga, Tenn.							1											201	274	460,000	31.0
Chicago, Ill.		11	86	4			1	1			10				3	2		190	280,000	35.3	
Cincinnati, Ohio		1	52				4		1									71	91	162,000	29.2
Cleveland, Ohio		1	6	30							3							13	19	39,000	25.2
Columbus, Ga.				1			1		1						4			63	109	169,000	35.4
Dayton, Ohio			7	1														3	9	30,000	15.6
District of Columbia		9	30		1		3	2					1	1	1			5	6	5,000	62.4
Erie, Pa.		2	1															3	7	10,000	36.4
Fredricksburg, Va.		1																17	26	61,000	22.2
Hudson County, New Jersey			1	26	3				4				2					56	90	199,000	32.5
Jacksonville, Fla.			3															3	7	10,000	36.4
Kansas City, Mo.		4	10						1									17	26	61,000	22.2
Keokuk, Iowa.							1											1	2	1,000	10.0
Lawrence, Mass.			13	1			1											20	26	40,000	33.8
Louisiana, Mo.		1	1															1	2	5,000	30.8
Louisville, Ky.		7	11	2			3	2			1				1			25	63	175,000	18.7
Lowell, Mass.			12															12	29	52,000	29.0
Memphis, Tenn.		2	6				1	2								3	14	31	40,000	40.3	
Mobile, Ala.		1	2						1	2					1			6	21	40,000	27.3
Nashville, Tenn.		2	3				1				2							8	19	25,000	36.5
Newark, N. J.		5	22	4		2	1								1			14	71	132,000	28.0
New Bedford, Mass.																		4	11	27,000	21.2
Newburgh, N. Y.		1	1				1				2							7	11	17,500	32.3
New Britain, N. C.							1	2	1									4	8	7,500	55.4
New Haven, Conn.		1																1	2	10,000	10.0
New Haven, Conn.		3	10	1			2											19	30	60,000	26.0
New York, N. Y.	3	86	295	7	3		45	12	7	3	27				4	4	49	833	1,097,563	39.5	
Norfolk, Va.			5												1			6	9	24,000	19.5
Norwich, Conn.				1														4	4	10,000	10.0
Omaha, Neb.		4		1			1								1			7	9	30,000	17.3
Orange, N. J.		2	2															3	7	12,000	30.3
Pateron, N. J.			17				2											21	30	40,000	39.0
Patuxent, Ohio.																		1	1	5,000	10.4
Peoria, Ill.		1	2										1	2				2	5	40,000	6.5
Philadelphia, Pa.		1	56	8	1						3				1	4		225	421	817,445	36.8
Pittsburgh, Pa.		6	34						1						2	2		52	80	145,000	28.7
Pittsfield, Mass.																		3	4	8,191	25.4
Port Huron, Mich.							1								1			6	8	14,000	29.7
Portsmouth, Va.		1																17	51	101,500	26.1
Providence, R. I.		7	12				1								1			13	18	35,000	26.7
Quincy, Ill.				9														15	33	84,000	21.5
Richmond, Va.		5	7				1											4	5	14,000	18.6
Richmond, Ind.		1	1															30		90,000	17.3
Rochester, N. Y.		3	9	1			2	1							1	1		18	21	32,636	81.2
San Antonio, Tex.													1	1	1			6	8	12,000	34.7
Savannah, Ga.		4	7				2	7		2					1			27	51	32,636	81.2
Sedalia, Mo.		1	7															1	6	4,500	69.3
Sing Sing, N. Y.							1			4								3	7	25,000	15.9
Snoutville, Mass.																		101	182	500,000	18.9
St. Louis, Mo.		12	53				2	5	1						4	1		1	7	35,000	10.4
Tairo, N. Y.		2	1															3	6	15,000	20.8
Vicksburg, Miss.				1														2	4	10,000	18.0
Waterbury, Mass.							1								1			11	20	35,000	24.7
Wheeling, W. Va.		1	7	3														15	30	44,013	33.5
Washington, Del.		1	2	1			3								1			4	7	19,000	19.2
Yonkers, N. Y.																					
Totals.....	27	322	939	80	9	2	98	58	21	6	90	1	11	46	33	3	2,116	3,940	6,999,198	29.0	

* Comp.

Monthly mortality reports of United States cities for May and June, 1879.

Places.	Months.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Stroking.	Typhoid and typhoid fevers.	Whooping-cough.	Yellow fever.	Deaths under 5 years.	Total number of deaths.	Population.	Annual death rate per 1,000.
Knoxville, Tenn.	May	4	4	4	1	2		1										7	18	16,400	13.2
Saint Paul, Minn.	do	5	5	5	1	2		1										15	37	16,500	16.7
Burlington, Vt.	June	5	64	15	34	3	1	57	2	1	5	16			11	1		344	639	400,000	10.6
Chicago, Ill.	do	3	3	1	1	1		1	1						2			2	10	11,301	10.6
Columbia, S. C.	do	18	13	1	5	1		8	1	1					4			74	74	30,000	29.6
Denver, Colo.	do	1	10	22	1	1		1	1						6			28	53	27,055	23.5
Keokuk, Iowa	do	7	7	7				3							1			21	41	20,000	12.8
Nashville, Tenn.	do	3	51	18	5	1	2	21	2			2			9	3		120	321	300,000	12.8
Saint Paul, Minn.	do	1	3	1	1	1	1	2	6									12	22	7,070	37.3
San Francisco, Cal.	do	16	21					1	1									41	100		
Selma, Ala.	do																				
Shelby County, Tennessee.	do																				

MORTUARY STATISTICS.

The following additional reports of mortality for the week ending July 12 were received too late to be inserted in the mortuary tables of the last number of the BULLETIN:

Cedar Keys, Fla.—Population, 1,200; 2 deaths from cerebro-spinal fever.

Dixon, Cal.—Population, 1,200; 1 death from consumption.

Louisiana, Mo.—Population, 5,000; 1 death from consumption.

Monmouth, Ill., reports 3 deaths in a population of 5,110, all from diseases of the digestive system.

New Orleans, population 210,000, records 105 deaths, of which 26 were under 5 years; from consumption, 20; diarrheal diseases, 20; kidney disease, 1; acute lung diseases, 4; malarial fevers, 7; puerperal diseases, 1; typhoid fever, 1.

Pavia, Ill., reports 8 deaths; of these, 1 were from diarrheal diseases, 1 from consumption, and 1 from stroke; population, 10,000.

San Antonio, Tex., reports 13 deaths in a population of 25,500; consumption, 1; malarial fever, 1; and 4 from small-pox among the Mexican population; under 5 years, 6.

San Francisco, with 300,000 population, reports only 81 deaths, of which 32 were under 5 years. Consumption, 9; diarrheal, 5; and typhoid fever and whooping-cough 3 each, are the chief causes of death.

Tampa, Fla.—Population, 1,000; there was one death from malarial fever.

Ann Arbor, Mich., reports no deaths; population, 8,000.

Decatur, Miss.—Population not given. There were 2 deaths from diarrheal diseases and 2 from malarial fevers.

Hartington, Tenn.—Population, 5,000; no deaths.

Jackson, Miss.—Population, 5,000; only 1 death, of an infant.

Salfat, Miss., reports 2 deaths, 1 from tuberculosis and 1 from metro peritonitis.

Selma, Ala.—Population, 7,070; there was 1 death from diarrheal disease; 3 from consumption; and 1 each from convulsions, malarial fever, and typhoid fever.

Scotobia, Miss.—Population, 1,500; reports no deaths for the week.

Sacramento, Cal.—Ten deaths in a population of 25,000; 3 under 5 years; from cerebro-spinal fever, diarrheal, and malarial fever, 1 each; 2 from consumption.

Soanra, Cal.—Population, 1,500; 1 death from consumption.

Los Angeles, Cal., population 11,000, reports 6 deaths; 2 from diarrheal, under 5 years.

Bay City, Mich., population 1,000, reports the following cases: Diphtheria, 1; remittent fever, 2; malarial fever, 1; acute lung diseases, 4; measles, 7; consumption, 3; total deaths, 1, all from drowning.

The following places report no deaths for the week ending July 19:

Abbeville, Minn., 300; Beaufort, S. C., 1,000. No registry is kept here, and deaths are reported by the physicians, clergy, and sextons. Bridgewater, Mass., 20,000; Concord, N. H., 11,000; Decatur, Miss., population not given; Edgartown, Mass., 1,700; Hernando, Miss., 1,200; Hudson, N. Y., 8,741; Milford, Mass., 10,000; Morton, Miss., 200; Niles City, Mich., 4,520; Okolona, Miss., 3,000; Paducah, Ky., 12,000; Port Royal, S. C., 261; Waynesborough, Miss., 800. Quarantine hospital, New York, reports, 3 cases of yellow fever, but no deaths.

Reports for the week ending July 19, from the following places, contain not more than one death from any of the diseases specified in the mortuary tables:

Ann Arbor, Mich., population 7,520; hernia, 1. *Anburn, N. Y.*, 20,000; scarlet fever, 1. *Bangor, Me.*, 20,000; old age, 1. *Battle Creek, Mich.*, 7,500; typhoid fever, 1; gastritis, 1. *Belfast, Me.*, 5,275; acute lung disease, 1. *Bridgeton, N. J.*, 8,000; 1 infant, cause unknown. *Brunswick, Ga.*, 3,000; 2 under 5 years, 1 from measles. *Burlington, Iowa*, 30,000; 6 deaths, 3 under 5 years; no causes given. *Hastings, Minn.*, 11,786; consumption, 1. *Marblehead, Mass.*, 7,500; 2 deaths under 5 years; 1 acute lung disease and 1 premature birth. *Monroe, Mich.*, 5,816; 2 deaths, no cause given. *Murfreesborough, Tenn.*, 1,000; 2 deaths; 1 from spasms, 1 cause unknown. *North Providence, R. I.*, 1,300; reports only two deaths for the past six months. *Painesville, Ohio*, 5,000; 1 from accident. *Pass Christian, Miss.*, 5,000; 1 from softening of brain. *Shelbyville Tenn.*, 2,000; 2 deaths from scrofula. "The town is cleaner than in years before, but still filthy; board of health hard at work." *Woodland, Cal.*, 35,000; 1 under 5 years from diarrheal. *Benton County, Mississippi*, population 11,000, reports 2 deaths from diarrheal diseases in a total of 5 deaths; 3 under 5 years of age. *Moline, Ill.*, reports 2 deaths from diarrheal diseases in a total of 3 deaths; 2 under 5 years.

The following was received too late to be entered in mortuary tables of the 19th instant:

Milwaukee,—Population, 12,426; total deaths, 56; diarrheal diseases, 13; diphtheria, 1; cerebro-spinal fever, 1; acute lung diseases, 2; consumption, 3; deaths under 5 years, 11; annual death-rate, 23.5.

Reading, Pa.—Population, 10,000; total deaths, 17; diarrheal diseases, 1; diphtheria, 1; scarlet fever, 1; consumption, 2; 10 deaths under 5 years.

THE YELLOW FEVER.

The following information has been received by telegraph from Dr. R. W. Mitchell since the last issue of the BULLETIN:

Memphis, Tenn., July 12.—Six new cases since last report; fever spreading. *July 20, 1 p. m.*—Eleven cases reported by the local board since 9 a. m. yesterday; fever spreading. *21st.*—Nineteen cases and 7 deaths. *22d.*—Twenty-three cases since 9 a. m. yesterday and 5 deaths. *23d.*—Nineteen cases and 7 deaths. *24th.*—Nine cases and 2 deaths. *25th.*—Sixteen cases and 5 deaths since 9 a. m. yesterday.

The following dispatch was received from Inspector A. R. Kilpatrick, M. D., on the 24th instant:

Mississippi City, Miss.—Five cases of yellow fever; 2 deaths. City isolated. No danger of spreading. The 1 cases convalescing.

AMSTERDAM, N. Y.—A board of health has just been organized in this town, with Dr. S. H. French as secretary.

THE AMERICAN BRIG SHASTA.

The following are the officially communicated facts in regard to this vessel:

The vessel left New York on the 5th April for Port au Prince, Hayti, which she reached after eighteen days; remained twelve days, during which time four of the crew took sick with fever. The vessel then proceeded to Port de Paix to take on logwood, and on this voyage the captain was taken with fever. The vessel arrived at Port de Paix on the 2d June, where she was quarantined.

The United States Consul, Stanislas Goutier, at Cape Haytien, reports as follows to the State Department:

UNITED STATES CONSULATE,
Cape Haytien, June 21, 1879.

SIR: The American brig Shasta, 311 tons burden, A. Brown master, arrived at Port de Paix June 2d instant, from Port au Prince, with the captain and part of the crew sick with the yellow fever, contracted in that city. The cook died soon after their arrival. The captain died on the 14th, and two seamen died on the 6th and 8th instant. Our consular agent at Port de Paix wrote me, under date of June 10—said letter was only received the 19th instant—requesting that I should get a captain or mate, a cook, and two seamen for the Shasta. Previous to having received his communication, I had been apprised, through private sources, of what had occurred, and had commenced taking measures, in conjunction with the charterers of the brig, to procure the men, when they got a competent person to take charge of the vessel, a cook, and two seamen. These men left here for Port de Paix the 21st instant.

The Shasta, after completing her cargo of logwood, will leave for Chester, Delaware County, Pennsylvania.

I am, sir, your obedient servant,

STANISLAS GOUTIER,
U. S. Consul.

Hon. SECOND ASSISTANT SECRETARY OF STATE,
Washington, D. C.

The following bill of health was given by United States Consular Agent Werth:

Bill of health, Shasta.

I, Ernest Werth, Consular Agent of the United States at Port aux Paix, do hereby certify that the American brigantine Shasta, of New York, burden per register 311.22 tons, commanded by Albert Hatson, navigated by nine (9) men, and having on board no passengers, leaves this port of Port aux Paix in free pratique, bound for Chester, Pa.

I certify that good health is enjoyed in this town and the adjacent country, without suspicion of plagues, cholera, or contagious distemper whatsoever.

The vessel arrived here on the 2d June, with yellow fever, and four men died on board to the 5th of June, but the vessel was thoroughly fumigated and no further sickness has been on board since, nor in town.

In witness whereof we have hereunto set our hand and seal of office, at Port aux Paix, this 29th day of June, 1879.

[SEAL.]

ERNEST WERTH,
U. S. Consular Agent.

The vessel arrived at Philadelphia quarantine on the 17th. Six of the nine men were sick with fever and were removed to hospital. The fever made its appearance on the second day out.

The following communication, dated CAPE HAYTIEN, June 23, 1879, and addressed to the Surgeon General United States Marine Hospital Service, is of interest in this connection:

The American brig Shasta, now loading logwood at Port de Paix, lost her captain, cook, and two seamen. They died of the yellow

fever, contracted in Port au Prince. Although I learn that the vessel has been thoroughly fumigated, I deem it my duty to inform you of that occurrence. The Shasta, when loaded, will leave for Chester, Delaware County, Pennsylvania.

I beg leave to report that this city is perfectly healthy; in fact, it is the healthiest port in the island. I have never ceased giving clean bills of health.

I am, sir, your obedient servant,
STANISLAS GOUTIER,
U. S. Consul.

The Secretary of State, Mr. EVARTS, has directed the consular-general at Port au Prince and the consul at Cape Haytien to make a thorough and immediate investigation of the case of the American brig Shasta, which arrived at Philadelphia with yellow fever on board but with a clean bill of health given by the consular agent at Port de Paix, Hayti, from which she last sailed. The consular-general is also directed to issue a circular upon the subject of bills of health, to the several consuls under his jurisdiction, calling upon them to exercise vigilance in the examination of vessels about to sail for the United States, and caution in the issuance of bills of health.

THE NATIONAL BOARD OF HEALTH.

The National Board of Health met on the 23d instant and approved the following acts of the Executive Committee:

JULY 12, 1879.

Ordered, That the following telegram be sent to Dr. R. W. Mitchell:

"You are hereby authorized, if necessary, to aid the Tennessee and Memphis boards of health with not exceeding ten thousand dollars (\$10,000), the details of co-operation needed to be submitted by such body to this Board after consideration and approval by you."

Ordered, That the following telegram be sent to the health authorities of Memphis, Tenn.:

"Dr. Mitchell, of Memphis, is authorized to co-operate with you on behalf of this Board and has received instructions."

Ordered, That the following communication be sent to Dr. R. W. Mitchell:

"I am directed by the Executive Committee of the National Board of Health to inform you that you are to be considered as on special duty under the Board to co-operate with the health authorities of Memphis and of the States of Tennessee, Mississippi, Arkansas, Illinois, and Kentucky, to prevent the spread of yellow fever from Tennessee to those States. To this end every effort should be made to thoroughly isolate the cases of yellow fever now existing, and others that may arise, in Memphis, and destroy every possible source of infection; and you are authorized for this purpose to incur expense to an amount not to exceed five thousand dollars.

"Please inform this Board as to what assistance is necessary to secure the restriction of the disease within the narrowest possible limits in the city of Memphis and in this manner prevent its spread to other States.

"Your attention is invited to the memoranda forwarded to you yesterday as to the means of obtaining aid and co-operation from this Board.

"Dangerous delay is arising from the fact that State and local boards do not seem to understand that under the act approved June 2, 1879, they should take the initiative in quarantine measures. We have advised them to adopt our rules and regulations. These recommendations they should formally and legally adopt and inform the National Board of Health of such adoption, and thus make them their own rules and regulations, the enforcement of which can be clothed with State or municipal authority.

"In the enforcement of these rules and regulations thus adopted the National Board of Health can properly aid and co-operate under section 3 of the act above referred to. After having adopted these rules and regulations it is then the business of the State and local boards to inform the National Board of Health as to what aid and co-operation they desire, giving details as far as possible; for instance, they should state how many inspectors or sanitary policemen are desired; for what time and at what salaries; what disinfectants or disinfecting apparatus are desired and at what cost; what buildings are to be purchased or rented for quarantine stations, transfer stations of observation, &c., and at what cost.

"You will please endeavor to have all these points explained as fully as possible to the health authorities of Tennessee, and to all those represented in the sanitary council of the Mississippi Valley. Assistants will be ordered to report to you to act as inspectors under your directions to carry out the directions of the board."

The Board, in its session on the 21st instant, declared the port of Memphis, Tenn., to be "dangerously infected."

The rules and regulations recommended by the Board to be adopted in case a port is declared to be "dangerously infected," are as follows:

"1. No steamboat or other vessel, or railroad train or other conveyance, or persons, from a place *dangerously infected* shall be permitted to enter a non-infected place without having certificates of the forms prescribed (see pages 5 and 6), giving evidence that they have complied with the rules and regulations provided for conveyances and persons leaving *dangerously infected* places.

"2. Inspections to ascertain whether these rules have been observed, and whether it is safe for the conveyances or persons to enter a non-infected place, shall be made outside the limits of such place.

"3. Separate accommodations must be provided both for the sick and for the well who are detained for observation."

EXTRACTS FROM SANITARY INSPECTORS' REPORTS.

Calcasieu Pass, La.—Sanitary Inspector Dr. Wirt Johnson writes: "The quarantine station is located half a mile from the Gulf of Mexico and two miles from the village of Leesburg, and is under the control of the board of health of Cameron Parish, by which it was established. It consists of a small wooden house owned by the quarantine officer, who is also keeper of a private light-house, and is not a physician. There are no accommodations for either sick or well. Quarantine is against all contagions or infectious diseases, and is now enforced against all Mexican, Central, and South American ports. If a vessel arrives with a clean bill of health, she is subject to the same detention (20 days); vessels from any port where a contagion or infectious disease is prevailing would be subject to quarantine. When a vessel arrives from a suspected port or with sick on board, rendering her subject to quarantine, no inspection is made of her state as regards cleanliness or ventilation. No measures are employed to improve her sanitary condition, and no record is kept of any vessel. When a vessel leaves a port no examination is made of her condition. No fees are charged for any service in connection with quarantine. General sanitary condition of the country is now good. An efficient quarantine, with a physician in charge, should be established at this port. In the event a vessel should arrive with sickness on board, and without a medical officer, it would be impossible to provide the sick with medical attendance, as the nearest physician is twenty-five miles distant.

"The expenses of this quarantine are now defrayed by the parish of Calcasieu and the citizens, the former paying one-half out of the public funds and the latter raising the remainder by private subscription."

Sabine Pass.—Dr. Johnson states, in his report of July 11, that the quarantine station is located on shore, two miles from Sabine City and six miles from the Gulf of Mexico. There is a small wooden house at the quarantine station, belonging to and occupied by the boatmen, but none belonging to the quarantine authorities, and no hospital accommodations. The nearest inhabited dwellings are one and a half miles distant. All arrivals from countries or ports south of the 25th degree of north latitude are subject to quarantine

during quarantine season, whether the bill of health from the place of departure be clean or foul. Twenty days' detention is required, dating from the time of departure from the port, and vessels are fumigated and disinfected. If sickness be on board, vessels are detained twenty-five days after recovery of the last case, and no difference is made in favor of vessels having a medical officer on board. When official information is received of the cessation of disease for which quarantine had been enforced against any place, and clean bills of health are issued from such place, twenty days must elapse after the receipt of such information before free pratique is granted to arrivals from such place.

No instance is recorded of disease having spread from persons or goods undergoing quarantine. In 1862 a vessel arrived from Havana with yellow fever on board, buried several dead, and the crew went on shore at Sabine City. The result was an epidemic in that town, but at that time no quarantine is known to have existed.

Cargoes of every kind are fumigated on board the vessels, as there is no place for the purpose on shore. Sulphurous-acid gas or chlorine is used. The quarantine officer takes charge of any cases occurring on board of vessels in quarantine, and demands no pay in addition to his salary for so doing. Vessels from suspected ports or in a foul or sickly condition are ventilated and disinfected, and detained for twenty days. No record is kept of the sanitary condition of quarantined vessels. An inspection is made and a certificate thereof is given to the captain before a clean bill of health is given to any vessel leaving the port.

Last year the captain of a vessel was arrested, fined, and sent back for violation of quarantine rules. No quarantine measures have been adopted by land. Expenses of quarantine are paid by the State, vessels paying only for fumigation and disinfection.

Most of the vessels entering Sabine Pass are schooners with lumber from Orange to Galveston and Indiana. Buildings are much needed at the quarantine station, and it is hoped that the legislature of Texas has made or will soon make an appropriation for that purpose.

Water Valley, Miss.—Sanitary Inspector Dr. S. S. Herrick reports as follows regarding the supposed case of yellow fever at Water Valley:

"The patient was a man aged 35 years. On July 2 he began drinking freely, and continued this habit for the three following days. On the 6th he began to complain of severe pain in the occipital and lumbar regions and legs, with frequent vomiting. Was first seen by a physician on the 9th. Pulse full and compressible, 110 to 115 per minute; stomach less irritable; abdomen tender on pressure. July 11 commenced sinking, and died about 11 a. m. Shortly before death became delirious; was neither wild nor stupid; slept little from the beginning.

"His medical attendant states that his tongue was brown and dry in the center; gums red and tumid; eyes at first red, but later became yellow; stools at first dark, but more natural before death; perspired freely; no bleeding from the gums and no black vomit; continued to walk about until the day before his death; no urine voided from the evening before he died, but catheter not used, nor was the urine tested; thermometer not used; turned yellow before death. No autopsy was made.

"No other cases of a suspicious character have occurred there this year; attack attributed to the combined effect of debauchery and malaria."

Brunswick and Darien, Ga.—Sanitary Inspector A. N. Bell writes that the only visible evidence of quarantine at Brunswick consists in a rough wooden building on a mud flat designated as "Brunswick Point," on Brunswick River. Six persons might be placed in it, but without being comfortable or safe, the flat being subject to overflows by high tides. It is in charge of a keeper who is instructed to notify the health officer of all vessels requiring his services. This fact he learns by signals from the vessels. The health officer being a practicing physician in Brunswick is often inaccessible for several hours or a whole day, the vessel meanwhile being liable to visits from adventurous boatmen engaged in trade or taking off passengers or crew.

From Saint Simon's, to which most of the larger vessels entering Brunswick are destined, there is ordinarily telegraphic communi-

tion to the health officer, but at my visit the telegraph was out of repair and inoperative. After careful examination of the town, with the assistance of the mayor, health officer and other members of the city government, we all concurred in the necessity of important changes. The place selected for a quarantine station is at Jeckyll Island, which is amply sufficient for both quarantine and marine hospital station.

At *Darien* the quarantine is equally inadequate and even more dangerous on account of its larger commerce. There is the same adaptation to the personal convenience of the health officer at the risk of the public health, and the same facilities of escape of persons and for the transportation of goods before being boarded by the health officer. The establishment consists of a single structure only, known as the "pest-house," on Wolfe Island. It is in bad condition, but if put in repair is capable of containing twelve beds. The location is unfavorable, as it is sometimes wholly covered by high tides; but, owing to the difficulty of procuring a place for such structures, I advise it should be retained and put in repair. In the event of an emergency requiring other and additional accommodations, buildings could be erected on Commodore's Island. The authorities readily acquiesced in the suggestions and lost no time in taking such action by the adoption of an amendment of their ordinances and making the required changes in the anchorage for infected vessels off the point of Commodore's Island.

Recognizing the special susceptibility of vessels as carriers of diseases, I have advised that all vessels, of every class, coming to Southern ports be inspected by the health officer for securing cleanliness, and that all steamboats running between these points be in like manner subject to inspection. From personal observation I know these vessels are commonly unclean and are required to be frequently inspected by the health officer as a necessary means to cleanliness.

In and about both *Darien* and Brunswick I made careful inspection and secured some salutary changes.

At Savannah, quarantine is very efficient as far as it goes, being admirably located, with accommodations for a dozen beds. The establishment is under most intelligent management.

SPECIAL NOTICE.

The special attention of State and municipal boards of health is directed to the following memoranda for the purpose of securing, when necessary, a speedy execution of the provision in the act of Congress of June 2, 1879, requiring the National Board of Health to "co-operate with and, so far as it lawfully may, aid State and municipal boards of health in the execution and enforcement of the rules and regulations of such boards to prevent the introduction of contagious and infectious diseases into the United States from foreign countries and from one State into another":

1. All communications to this Board pertinent to the matters included within the above provision should be made by State or municipal boards of health and not otherwise.

2. Such communications should present the subject-matter sufficiently in detail to enable this Board to exercise a discretion as to the expediency of co-operating or aiding therein, specifying among other things the duties of any officers the appointment or payment of whom is requested.

3. Official information should be given therein of the adoption by such State or municipal board of any rules and regulations that have been recommended in such case by this Board, and of any other State or municipal rules and regulations that appear to be necessary for the purpose in question.

4. No money shall be advanced upon the application of State or municipal boards of health unless such application be accompanied by a certificate from the governor of the State or the mayor or other chief officer of the municipality, respectively, to the effect that there are no State or municipal funds available to carry out the particular sanitary measures because of which the application is made.

THE HAVANA COMMISSION.

Dr. Chaillé, chairman of the Havana Commission, writes as follows, under date of July 18:

As to the sanitary condition of Havana and of its harbor, it would be difficult to devise conditions more favorable to propagate disease. Built upon a thin layer of earth which covers extremely porous coral rocks, this foundation is deeply saturated with the excrements of many thousands of human beings, and of animals, continuously deposited throughout a long series of years. Nothing can be worse or more offensive than the privy system of Havana. Associated with the evil hygienic conditions of the city the harbor is, if possible, in even fouler condition.

This harbor, about one mile long, two-thirds of a mile wide, and some thirty feet deep in the deepest places, has a difference between its minimum low and its maximum high tide of less than two feet; and into this almost stagnant pond is daily poured the sewerage of the city, the offal of the slaughter-houses, and the refuse from at least two large hospitals habitually infected with yellow fever and located on the very edge of the harbor. The fecal odor from this harbor is often distinctly perceptible.

Among other things done I, at the suggestion of Dr. Daniel M. Burgess, of Havana, to whom I owe much, have inspected the ballast sold to and transported by ships from this port. Repeatedly has the ballast from this port been accused of causing outbreaks of yellow fever in ports of the United States, and as repeatedly has this been discredited. I have no hesitation in asserting, as the result of personal examination, *that if there be anything whatever which can serve as fomites to transport yellow-fever poison that the ballast from this port appears to be eminently fitted for this purpose.* In my opinion, the National Board of Health should at once adopt such measures as may be needful to protect our ports against the dangerous risks they are subjected to by all ballast from this port.

Dr. George M. Sternberg, secretary of the commission, says:

I find that the air of our laboratory is loaded by minute spherical organisms, and contains bacteria not distinguishable from bacterium termo. I have made some experiments for testing apparatus designed for the purpose of keeping putrifiable fluids germ-proof, using for my test the liquor from the interior of an unripe cocconut. This liquor possesses properties which will, I believe, make it of great value. " " " It is transparent as water when the nut is not too ripe, is contained in a germ-proof receptacle (the cocconut), and when exposed to the air, bacteria and other organisms develop with astonishing rapidity. In my first experiment two portions from the same nut were placed in small beakers, one exposed to the air and the other protected by the glass cover and bell-jar (Lister's apparatus), with previous prevention of heating apparatus to 320 degrees. The following morning the portion exposed to the air was milky in appearance and loaded with bacteria large and small, and had upon its surface a pellicle containing the cells of some fungus; the portion under the bell-jar was clear as water. I have succeeded in keeping this liquor in quantity for three days in a Florence flask, made germ-proof by heating to 320 degrees Fahrenheit, and provided with a cotton germ-filter.

I have made several good negatives of bacteria developed in cocconut liquor for the purpose of testing my lenses and apparatus. I propose to continue the experiments commenced during the ensuing week.

NOTES FROM CONSULAR REPORTS.

St. Martin, W. I.—Under date of June 19, Hon. D. C. Romondt, United States consul at St. Martin, in a communication to the Surgeon-General United States Marine Hospital Service, says:

"The government physician has this day informed me that there is an isolated case of yellow fever, in an advanced stage, under his treatment in this town. The case is that of a young Englishman who has been but a short time in the West Indies, but I do not apprehend that the disease will spread, there being but few Europeans or Americans residing here. I will keep you regularly informed concerning this matter, and will make use of the telegraph should it become necessary."

MISCELLANEOUS.

THE NEW TENEMENT HOUSE ACT of New York gives the board of health of that city important powers over these structures. The plans of all new buildings must be submitted for its approval, and it is required to secure the following conditions:

1. At the rear of every house there shall be a clear open space of not less than 10 feet.
2. No one continuous building shall occupy more than 65 per cent. of the lot.
3. The total area of window space in every room communicating externally shall be one-tenth of its superficial area, and the upper half shall be so made as to open full width.
4. Air-shafts must communicate with every room having neither external windows nor fire-place.

The board has appointed eighteen sanitary engineers as inspectors, who are to thoroughly examine the existing tenement houses and secure every needed improvement. It has also opened an account-current with each house, which will determine at any time the exact sanitary condition of such house.

DR. E. M. HUNT, secretary State board of health, New Jersey, writes:

Individual prophylaxis is too much lost sight of in attempting to limit epidemics. A defined method of treatment, accurately carried out for a period of from 5 to 8 days before an outbreak of the infective disease would otherwise occur in the individual, will either prevent such outbreak or so far modify it as to make it benign. Such treatment, in order to be effective, must not leave the fluids, as represented by the blood, without a sufficient quantity of the medication given present to be perceived by the tests now applied in such investigations.

He urges that accurate investigations be made to determine the special prophylactic medication adapted to each zymotic or infective disease.

THE following boards of health have adopted the rules and regulations of the National Board:

Louisiana State board, July 10; Tennessee State board, July 11; local board at Pensacola, Fla., July 11; Mississippi State board, July 15; municipal board, Brunswick, Ga., July 16; local board, Vicksburg, Miss., July 16; local board, Mobile, Ala., July 17; local board, Cairo, Ill., July 18; Kentucky State board, July 19; local board, Shelbyville, Tenn., July 19; Illinois State board, July 22; local board, Huntington, Tenn., July 19; local board, Carlisle, Ill., July —; local board, Jacksonville, Fla., July 23; New Jersey State board, July —.

SCRANTON, PA.—This city of 50,000 inhabitants organized a board of health one year ago, with Dr. G. B. Boyd as health officer. Scranton is in direct communication with Philadelphia and New York by railroad, which renders a board of health an essential element in its government.

THE SURVEYOR OF CUSTOMS at Memphis, Tenn., telegraphed the Surgeon General United States Marine Hospital Service on the 23d instant that "there is no sickness among the marines at this port."

STATE AND LOCAL QUARANTINE LAWS.

QUARANTINE LAWS—FLORIDA.

[Approved March 11, 1879.]

SECTION 1. The mayor, aldermen, and city physician, if there be one, of every incorporated city or town in this State shall be, and are hereby, constituted a board of health for said incorporated city or town, and when there is no incorporated town or city, the board of county commissioners shall constitute a board of health for such county.

SEC. 2. The board of health of any incorporated town or city upon or adjacent to any bay, river, or harbor may establish a quarantine ground, either within or without the limits of said incorporated city or town, and may establish therein hospitals for the care of persons sick with contagious or infectious diseases, and may employ physicians and nurses and furnish medicines and supplies for said hospitals. Such quarantine ground shall be definitely bounded by natural or artificial objects, and an accurate description of such boundaries shall be publicly posted or printed in a newspaper in said city or town for the space of two weeks at the time of the establishment of quarantine by the board of health, as hereafter provided. If complaint be made by three persons to the adjutant-general against the location of any quarantine ground or quarantine hospital, he shall appoint three discreet persons, other than those complaining, to inquire into said complaint, and upon their report he may order a change in the location thereof.

SEC. 3. Any board of health may at any time during each year establish a quarantine forbidding the approach to the city, town, or district over which said board of health has jurisdiction of any vessel or boat upon which any contagions, infectious, or pestilential disease has occurred or existed during the voyage to said city, town, or district, or within thirty days next preceding the arrival of said vessel or boat at said city, town, or district, and forbidding the landing of any persons or goods from such boat or vessel until such boat or vessel has performed quarantine in accordance with the rules and regulations of the board of health.

SEC. 4. Any board of health may at any time, upon information that any country or locality is infected with plague or other malignant, contagious, or infectious disease, establish quarantine against such country or locality, forbidding the approach to the town, city, or district over which said board may have jurisdiction of any vessel or boat or persons from such infected country or locality, and forbidding the landing of such boats or vessels or of any persons or goods therefrom until such boat or vessels, persons and goods shall have performed quarantine in accordance with the provisions of this act and with the rules and regulations of the board of health. The establishment of such quarantine against each and every of such infected countries or localities shall be posted publicly or published in some newspaper for the space of two weeks.

SEC. 5. Every vessel or boat and the cargo thereof, and the persons arriving thereon, shall be subject to the regulations prescribed by the board of health of the city or town nearest to the port or harbor where such boat or vessel may arrive. The establishment of such quarantine shall be publicly posted or published in some newspaper for the space of two weeks.

SEC. 6. The board of health of any incorporated city or town may appoint one or more port inspectors, whose duty it shall be to board every boat or vessel approaching such city or town, and to ascertain if the said boat or vessel is subject to perform quarantine under the third or fourth sections of this act; and if such boat or vessel is subject to perform quarantine as aforesaid, the inspector so boarding such boat or vessel shall order the same, together with all persons and goods, thrown into quarantine at the place designated by the board of health under the second section of this act. The said inspector shall immediately notify the board of health that the said boat or vessel has been ordered into quarantine.

SEC. 7. Each board of health may appoint a quarantine physician, who, during the existence of any quarantine, shall reside at the quarantine grounds established according to section second of this act, and who, under the regulations of the board of health, shall have exclusive control of the quarantine grounds and of all vessels, boats, persons, and goods therein.

SEC. 8. The board of health of any incorporated town or city may order into quarantine any boat or vessel in the vicinity of such city or town whenever the presence of the said boat or vessel or the cargo thereof in said vicinity will, in the opinion of the city physician, endanger the health of the inhabitants of such town or city.

SEC. 9. After proclamation of quarantine under the third and fourth sections of this act by the board of health of any city or town, if any boat or vessel subject to quarantine shall anchor at or off said city or town, without the written permission of a port inspector for said city or town, the master of such boat or vessel shall be fined a sum not less than three hundred dollars, and be imprisoned in the county jail not less than thirty days.

SEC. 10. If the master of any vessel or boat shall fail or refuse to take such vessel into quarantine after the port inspector inspecting said vessel has so ordered, or if any boat or vessel in quarantine shall remove or be removed out of the quarantine limits for any purpose than to go to sea, without the written permission of the quar-

antine physician, the president of the board of health having jurisdiction over such quarantine grounds, the master of such boat or vessel shall be fined not less than five hundred dollars and be imprisoned in the county jail not less than ninety days. The said master may be returned by the president of the board of health to quarantine to await, under arrest, the expiration of quarantine.

SEC. 11. If after proclamation of quarantine under the third and fourth sections of this act by the board of health of any city or town, any person coming in any boat or vessel approaching said city or town from the high seas shall land from the same within the jurisdiction of said board of health, or if any person shall land any goods therefrom within the jurisdiction of such board of health, or if any person shall go on board of said vessel previous to inspection of said vessel by a port inspector, such person, should such vessel be ordered to perform quarantine under this act, shall be required to perform the same quarantine, or shall be fined not less than one hundred dollars and not more than five hundred dollars, and shall be imprisoned not less than twenty days and not more than sixty days in the county jail.

SEC. 12. If any person within the quarantine limits (except the officers and sailors of any boat or vessel relieved from quarantine) shall leave the same without the written permission of the quarantine physician and of the president of the board of health, by authority of the board of health, or if any person within the quarantine limits shall go from shore on board any vessel or from one vessel on board another vessel without the written permission of the quarantine physician, or if during quarantine any person from without quarantine limits shall go into the same and thereon before the expiration of quarantine, without the written permission of the quarantine physician and of the president of the board of health, by authority of the board of health, shall be fined not less than five hundred dollars and imprisoned in the county jail not less than ninety days; and the president of the board of health may upon arrest of such offender send him to the quarantine limits to await the expiration of quarantine.

SEC. 13. The board of health of any city or town may make such rules for the regulations of quarantine, not inconsistent with this act, as may seem to them necessary, and the same may be enforced, and the punishment prescribed by such board of health for the violation of such rules shall be imposed in like manner as punishments for violations of the ordinances of said city: *Provided*, That no fine for the violation of any of such rules shall exceed one hundred dollars, and no imprisonment for any violation thereof shall exceed twenty days.

SEC. 14. All sheriffs, constables, and marshals shall assist the board

of health in the execution of any of its orders made in accordance with this act or the rules of said board: *And provided further*, That no fine or imprisonment for the violation of any rule or regulation of such board shall be imposed until such rule or regulation has been publicly posted or printed in some newspaper in such town or city for the space of two weeks.

SEC. 15. The board of health of every incorporated city or town may establish a land quarantine when in their judgment necessary, and are empowered to make rules and regulations to prevent or restrain any or all persons or goods coming from any city or place where any infectious or contagious disease prevails or exists from entering into such city or town during the existence of such quarantine. For the purpose of such quarantine the jurisdiction of such city or town shall extend to the boundaries of the county in which the same shall be situated; and in case there shall be two or more towns in any county, the jurisdiction of each on the side toward another shall extend to a line midway between them.

SEC. 16. The circuit court of the county in which may be any city or town establishing quarantine in accordance with this act shall have jurisdiction of all violations of the provisions of this act whenever in this State such violations may occur, and all violations of the rules and regulations of the board of health of any city or town made in accordance with the thirteenth section of this act shall be punished by the mayor of such city or town whenever in this State such violations may occur.

SEC. 17. All officers and employes in and about quarantine shall be paid, and the expenses of quarantine board, by the city or town establishing such quarantine. Every vessel undergoing inspection by the port inspector shall pay therefor to the board of health a fee not to exceed five dollars; and every vessel in quarantine which, in the opinion of the port physician, shall require and shall receive fumigation or other disinfection, shall pay therefor to the board of health a fee not exceeding five cents per ton and the costs of the disinfectants necessarily used; and if the master of any ship, boat, or vessel shall refuse to pay such fees, the board of health may detain said vessel in quarantine until the same are paid, or may sue for and recover the same from the owner of such ship or vessel.

SEC. 18. The offices of port physician and port inspector of any city or town may be combined in one person by the board of health of such city or town.

SEC. 19. An act to regulate quarantine, approved June 19th, 1869, is hereby repealed.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, AUGUST 2, 1879.

[No. 5.]

NATIONAL CO-OPERATION WITH STATE AND LOCAL BOARDS.

The method of securing the co-operation of the National Board of Health with State and local boards in preventing the spread of yellow fever from one State into another, has been published and widely circulated. In view of possible exigencies giving rise to extraordinary demands for material aid, such as for inspectors, hospital accommodation, &c., when prompt action will be necessary, it is deemed best to again call attention to certain points which should be observed by State and municipal authorities in making application for aid and co-operation:

1. All communications to this Board having reference to the provision in the act of Congress of June 2, 1879, requiring the National Board of Health to "co-operate with and, so far as it lawfully may, aid State and municipal boards of health in the execution and enforcement of the rules and regulations of such boards to prevent the introduction of contagious and infectious diseases into the United States from foreign countries and from one State into another," should be made by State or municipal boards of health, and not otherwise.

2. Such communications should present the subject-matter sufficiently in detail to enable this Board to exercise a discretion as to the expediency of co-operating or aiding therein, specifying among other things the duties of any officers the appointment or payment of whom is requested.

3. Official information should be given therein of the adoption by such State or municipal board of any rules and regulations that have been recommended in such case by this Board, and of any other State or municipal rules and regulations that appear to be necessary for the purpose in question.

4. No money shall be advanced upon the application of State or municipal boards of health unless such application be accompanied by a certificate from the governor of the State or the mayor or other chief officer of the municipality, respectively, to the effect that there are no State or municipal funds available to carry out the particular sanitary measures because of which the application is made.

5. Of the supplies required for the sick those furnished by this Board to local authorities shall, as a general rule, be applied to other objects than those of shelter and furniture, which should be furnished by such authorities. Where, however, it shall be otherwise ordered, the local authorities will be expected to account to this Board, from time to time, for the safe-keeping and proper use of the furniture, provisions, medicines, &c., so furnished.

6. Whenever this Board shall order the erection of temporary buildings, or provide any buildings for the purpose of quarantine, the necessary contracts therefor shall be made by one of its own officers or agents, subject to the approval of the Board or of its executive committee.

7. All requisitions upon the National Board of Health for funds for the purpose of aid and co-operation in enforcing the rules of State and local boards, and for carrying out the recommendations of the National Board of Health, made after this date, should be made by or with the approval of the State board of health; or in case there is no State board of health, then by or with the approval of the governor of the State.

LA SALLE, ILL.—Dr. Floyd Cleudemin writes, July 26: "Our city is now being placed in the best sanitary condition. No contagious diseases exist here."

CIRCULAR No. 6.

RELATIVE TO DISINFECTION AND PRECAUTIONARY MEASURES.

NATIONAL BOARD OF HEALTH,
Washington, D. C., July 28, 1879.

The following memoranda on disinfection for limiting the spread of yellow fever are published as a summary of existing knowledge on this subject. This knowledge is far from being precise, and the Board has taken measures to have the effects of disinfectants, and more particularly of gaseous or volatile disinfectants, upon the lower organisms, both moist and dry, carefully investigated. This investigation will require much time, but the results will, it is hoped, repay the cost.

1. It is prudent to assume that the essential cause of yellow fever is what may for convenience be called a "germ," that is, something which is capable of growth and propagation outside the living human body; that this germ flourishes especially in decaying organic matter or filth, and that disinfection must have reference both to the germ, and to that in or on which it flourishes.

2. Disinfection, when used in a place not infected, for the purpose of rendering filth, or foul soils, waters, &c., incapable of propagating disease germs, is a poor substitute for cleanliness, and is mainly useful to make the process of cleansing odorless and harmless. The best disinfectants for this purpose are sulphate of iron, carbolic acid, fresh quick-lime, fresh charcoal powder, chloride of zinc, chloride of aluminium, and permanganate of potash.

3. The two great difficulties in destroying the vitality of the germ of yellow fever are, first, to bring the disinfecting agent into actual contact with the germ; and, second, to avoid injuring or destroying other things which should be preserved.

4. When the germ of yellow fever is dry or partially dried no gaseous disinfectant can be relied on to destroy it. It must either be moistened or subjected to a dry heat of not less than 250° F. to obtain security.

5. In disinfecting or destroying infected clothing, bedding, or movable articles, more than as little as possible while dry. Before disturbing them have them thoroughly moistened either with a chemical disinfecting solution or with boiling water, in order to prevent the diffusion of dried germs in the air in the form of dust.

6. The best method of disinfecting rooms, buildings, ships, &c., is still doubtful, owing to the difficulty of destroying the vitality of dried germs.

The Board proposes to have this subject carefully investigated, and in the mean time advises thorough scrubbing and moist cleansing to be followed by the fumes of burning sulphur at the rate of 1½ ounces per 1,000 cubic feet of space to be disinfected.

The sulphur should be broken in small pieces, burned over vessels containing water or sand, which vessels should be distributed in the closed space to be disinfected at the rate of one to each 100 square feet of area of floor.

No. 7. No patented compound known to the Board is superior as a disinfectant to the agents above mentioned, and none is so cheap. Some of these patent disinfectants are good deodorants, but the removal of an unpleasant odor is no proof that true disinfection has been accomplished.

8. In districts where yellow fever prevailed last year the following precautionary measures should be taken:

(a) Textile fabrics of every description which were exposed to

yellow-fever infection during the year 1878 and which have remained packed or boxed in a closed place since such exposure, should not be opened or unrolled, but should either be burned or placed in boiling water for half an hour or more, or in suitable heated ovens, or disinfected according to the nature and value of the individual article or articles.

(b) Every house or room in which cases of yellow fever occurred in the year 1878, and since that time have remained unoccupied, should not be opened for occupation until they have been thoroughly cleansed and disinfected by persons acclimated to yellow fever.

(c) Every privy, vault, underground water-cistern, dry well, or closed cellar connected with a house in which yellow fever existed last year, and which may not have been opened since that date should not be reopened, but if possible should be covered with several feet of earth.

(d) Every suspicious case of sickness should be at once isolated, and every possible precaution taken to prevent infection by providing attendants who have had the disease, and thorough disinfection of all discharges from the sick. If the disease prove to be yellow fever all articles of clothing and bedding used about the sick should be burned, the house should be vacated, and every room tightly closed and fumigated with burning sulphur.

MARITIME QUARANTINE.

It is gratifying to record, weekly, the seaport towns which adopt the rules and regulations recommended by the National Board of Health, to be observed at all ports of the United States which are or may be designated as Quarantine Stations. An examination of the incongruous mass of rules and regulations now in force in the several States, as they appear from week to week in the BULLETIN, will convince the most incredulous of the necessity of reform in the administration of quarantine in this country. For the most part, these rules are based on the ancient and now exploded doctrine that *time* is the most important element in the enforced detention of vessels. This doctrine, practically applied, is not only destructive to commerce, but tends powerfully to multiply the infection which it is proposed to exterminate. But the rules and regulations prepared by the National Board are designed to secure the best sanitary condition of vessels, and recognize *cleanliness* as the occasion for detention. Quarantine for this purpose not only favors commerce but strikes directly at the source of all the evils which commerce inflicts upon communities, as the carrier of the materials on which the spread of infectious and contagious diseases depend. This is no merely theoretical statement. At the New York Quarantine, under Dr. Vanderpoel, it is practically applied with the happiest results. Vessels daily arrive at that port from infected foreign ports with every variety of cargo, and often with persons sick of the most infectious and contagious diseases, and yet so rapid is the method of isolation of the sick, purification of the ship, and removal of its cargo, that the vessel is soon relieved of detention and sent on its voyage. So quickly is this work accomplished that the merchant regards quarantine as aiding him in placing his cargo in market, and so effectual is the purification that contagious and infectious diseases far less frequently reach New York City through its quarantine than when the old system was in operation.

The rules and regulations which the National Board recommend for all the Quarantine Stations of the United

States embody the latest views and practical experiences of the best sanitarians devoted to quarantine administration. In their preparation the Board had the personal advice and assistance of Dr. S. O. Vanderpoel, of New York, whose thorough knowledge of the whole subject of quarantine, both theoretical and practical, is not excelled. It is for these reasons that the adoption of these rules may with propriety be urged upon all bodies, municipal and State, which have the power of making and enforcing quarantine laws. If the principles which these rules enforce should finally govern all of the quarantine stations of the seaboard, a most effective organization would be established, against the entrance of vessels bringing pestilences to our shores and commerce and quarantine would co-operate harmoniously to that desirable result.

MEDICAL OFFICERS AS INSPECTORS IN FOREIGN PORTS.

The act to prevent the introduction of contagious or infectious diseases into the United States, provides that, upon the request of the National Board of Health, the President is authorized to detail a medical officer to serve in the office of the consul at any foreign port for the purpose of making the inspection and giving the necessary certificates. In accordance with this provision of the law, the National Board of Health, on June 27, requested the detail of two officers, one to serve at Port au Prince, Hayti, and the other at Havana, Cuba, at which ports yellow fever was then prevailing in epidemic form. Subsequently the fever subsided at Port au Prince, but appeared at Matanzas, Cuba, and the Board changed the form of detail from the former to the latter city. In compliance with this request the President has detailed two medical officers from the Navy, as appears from the following communication from the Secretary of the Navy:

NAVY DEPARTMENT,
Washington, July 25, 1879.

SIR: Since the personal interview a few days ago with Mr. Phillips and yourself, I have ascertained that two officers of the medical corps of the Navy have readily consented to perform the duties indicated in your letter of June 27th and a subsequent one of the 11th instant, both addressed to the President and referred by him to this department, viz: the inspection of vessels and issuing certificates at Havana and Matanzas. Therefore it is gratifying to me to be enabled to detail Surgeon Thomas Hildan for service at Havana, and Surgeon Walter K. Schofield at Matanzas. They will be forthwith instructed to report to the department without delay, when they will be put in connection with your Board and specific instruction given them.

Very respectfully,

R. W. THOMPSON, Secretary.

Dr. J. L. CABELL,

President National Board of Health.

Secretary Thompson has since revoked so much of the above as details Dr. Schofield, and gives the name of Medical Inspector Somerset Robinson in his place.

INSPECTION AND PURIFICATION OF PASSENGERS, BAGGAGE, AND FREIGHT.

The rules and regulations recommended by the National Board of Health for securing the best sanitary condition of steamboats and railroads, and all that pertains to them, including passengers and freight, is popularly regarded as a system of "quarantine." If this term is employed it must be borne in mind that the word, as defined in the rules and regulations of the National

Board, "is used to mean the administration employed to determine the presence or absence of the causes of contagious or infectious diseases in vessels arriving at a port, and the securing, if present, the removal or destruction of such causes, and does not imply detention for any specified time, nor for more time than is necessary for the above purpose." The term whenever used in connection with the rules and regulations for securing the best sanitary condition of steamboats and other vessels, and railroads, communicating with infected ports or places, has the same significance. Two objects are sought to be attained by the enforcement of these rules throughout the districts liable to be infected by the agencies which cause yellow fever:

1. The thorough inspection of all persons and transported articles which can convey infectious matter, and their purification.

2. Such freedom of movement by steamboat or railroad of persons, baggage, and freight as is compatible with inspection and purification.

In other words, the rules and regulations provide a restricted and supervised intercourse with infected ports and places. It is believed by sanitary authorities of the largest experience in the application of measures for the prevention of the spread of yellow fever, that if these rules are faithfully executed by local boards of health throughout the Mississippi Valley, the fever may be controlled and limited, while personal and commercial intercourse may safely be continued. It is to be regretted that some important cities and towns, instead of adopting this view and systematizing inspection and purification of persons and baggage, have gone to the extreme of enacting ordinances prohibiting all intercourse with infected places. This is a return to the barbarous and inhuman quarantine system of the dark ages, and practically ignores all the discoveries of science, as to the nature of infectious and contagious diseases, and the methods by which they may be controlled and exterminated.

THE SUSPICIOUS CASES AT MISSISSIPPI CITY.

The cases of fever which occurred at Mississippi City, and which have been variously reported as malarial and yellow fever, are given below in detail by Inspector Dr. A. R. Kilpatrick. The Creel family live near the beach, in Harrison County, Mississippi, two miles from Mississippi City. The family are very poor, but live at a healthy place on the bay or sound. The sanitary condition of the premises is not good.

Case 1.—Louisa Creel, white female, age 15 years and 7 months, born in Perry County, Mississippi, has been employed as a nurse for children by Mr. J. Stout, living at No. 131 Third street, New Orleans, since November, 1878. Louisa had intermittent fever last year at her mother's house, but when she left Mr. Stout's on Sunday, 6th of July, 1879, she was in good health. When she reached the depot near home she was met by her oldest brother, Thomas, who carried home her bundle of clothes. Bain fell while they walked the distance, two miles. Next day, the 7th of July, Louisa was taken sick with fever, though she tried to keep up. On the 8th Dr. J. J. Harry, residing at Handsborough, a short distance off, was called to see her. The mother told him that Mr. Stout's children had all had measles or some eruptive disease, and Dr. Harry gave a little medicine and waited for eruption to develop. He made another visit that day. On the 9th he saw her again, and from her symptoms thought she

had bilious fever, but when he made a second visit that day, in the afternoon, he observed the skin was dusky yellow, eyes red and injected, the patient dull and almost comatose. He apprehended she had yellow fever, and intended to have a consulting physician next day, but she had black vomit and died at 5 o'clock next morning. After death her whole body became intensely yellow, the ears dark colored, the throat, neck, and depending portions of body intensely ecchymosed, and the black vomit escaped from her mouth. There was no post mortem examination.

Case 2.—Thomas Creel, white male, aged 21, born in the vicinity, brother of Louisa, was taken sick eight days after her death, or on Friday, July 18, 1879. He had a chill and an indescribable sensation of pain and restlessness. Dr. Pelaez saw him; pulse 108; temperature 103; tongue coated, red at tip and edges; no nausea then; not much thirst; eyes red, conjunctivae intensely injected. There was no suppression of urine, but it was highly albuminous. There was also slight delirium; great tenderness of the epigastrium. On Monday, 21st, he passed, *per rectum*, considerable quantities of dark fluid usually called black vomit, and on Monday night, 21st, he began to throw up black vomit, which he continued to do at frequent periods till death. About 72 hours after the attack came on the fever subsided. Suppression of urine came on, Tuesday, 22d. He discharged urine at 4 o'clock that morning, but no more afterward. At 10 o'clock a. m., Tuesday, the catheter was introduced, but no urine could be procured for analysis or testing. I saw him at this time and noted the pulse was 72; temperature 101; tongue furred, edges and tip red; gums red and spongy. He gradually sank, and died at 5 o'clock a. m., Thursday, July 25.

Autopsy.—Dr. Pelaez made the autopsy, with my assistance. Five hours after death there was intense *rigor mortis*; cadaver was extremely yellow, and the ears, neck, and all depending parts highly ecchymosed. The subcutaneous adipose tissue was highly tinged yellow, and the abdominal viscera were all tinged in the same way, as was the tunica albuginea. The liver was firm, pale straw or boxwood color. On being cut, no blood issued from it at first. The spleen was a little enlarged, but no abnormal appearances. The kidneys were nearly double the normal size, and highly congested. They were soft and flaccid, and the capsules were easily detached. The stomach was distended with gas, and on being opened a considerable quantity of black vomit was seen. The coats were softened. All the colon was contracted to the size of the jejunum. The urinary bladder was found empty. The serum in the pericardium was of a pale straw color. The heart was nearly twice the normal size, soft and flaccid, and when one auricle was opened a large quantity of dark colored fluid black ran out.

Case 3.—Caroline, aged 12, sister of Louisa, was taken sick on Friday, the 18th, about three hours after her brother Thomas began to complain.

Cases 4 and 5.—Arabella, *et. 6* years, and Samantha, *et. 8* years, were taken sick on the 19th, the day after Thomas and Caroline came down with the fever. Arabella had suppression of urine some hours on the 22d, and was delirious, but they both recovered.

Case 6.—Edward, brother of Louisa, aged about 20 years, was taken sick on Sunday, the 20th, having the same symptoms in a milder form. On the 23d his pulse was 60 and temperature 103; at 10 o'clock a. m. He recovered. Of the six cases two died. They were all yellow, had furred tongues with red edges and tips, and eyes intensely injected and yellow.

On Friday, July 25, 1879, I visited the family of Mr. J. S. Stout, No. 131 Third street, New Orleans, and obtained from Mrs. Stout the following items: The family moved into the house on December 2, 1878. Mrs. Stout has never had yellow fever; Mr. Stout had it several years ago, and before marriage. There were cases of yellow fever in the house in 1878, and one death from it, but the house was vacated, scrubbed, fumigated, and calcimined soon after, and was clean when Mr. S. moved into it. Mrs. S. said the privy vaults soon became very offensive, and so insufferable that they had to be cleaned out, which was done about six weeks ago or about the 10th of June. She said the vaults were foul and full. The owner of the property said he had them cleaned when the house was cleaned, so they (the vaults) may have been leaked into. Mr. Stout has five small children, all of whom were sick along in the first week of July, and probably earlier. The last case, a girl, left her bed Friday, July 18. The mother, Mrs. S., states that all the children suffered from epistaxis all through their illness; in some of them the hemorrhage was considerable. They are well now. Mr. Stout is pilot on a river boat running to Vicksburg, and was taken sick while on a trip, but soon recovered. He had no more nose-bleed. An adult brother of Mrs. S., living with them, was sick a day or two very slightly; no hemorrhage.

THE STATE BOARD OF HEALTH OF TENNESSEE, at its meeting held July 22, passed the following rules for the guidance of the executive officer of the board:

1. All railroad and steamboat inspectors appointed by this board shall be medical men of skill and experience.
2. The president of this board shall, *ex officio*, be supervising medical inspector for the State, and all inspectors shall report in writing

to him daily, or at such times as he may designate, and in such manner as he may require.

3. Any inspector may be suspended from duty, without pay, by the president and supervising inspector, when he may see fit, and he may appoint a substitute if he thinks proper.

4. All inspectors shall be at all times under the orders of the supervising inspector, and may be transferred from place to place by him at his discretion.

5. All inspectors shall remain at all times, day and night, at their respective places or locations, without leave of absence be granted by the supervising inspector.

6. The board may appoint a superintendent of quarantine at each place infected with yellow fever, who shall be at all times under the orders of this board or its president and supervising inspector, and shall make regular reports at all such times and in such manner as may be indicated by this board.

Report of mortality in cities of the United States for the week ending July 26, 1879.

Places	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Interpal diseases.	Scarlet fever.	Small pox.	Stro-ke.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Aberdeen, Miss.	3,500	1	12	29.7							1							1	
Albany, Pa.	75,000	21	35	24.3		3	9	1				1							
Ann Arbor, Mich.	7,520	1	2	13.8		1	1												
Atlanta, Ga.	33,000	4	11	14.7		1	2			1								1	
Aurora, Ill.	26,774	3	13	25.3		1	2												
Aurora, Ill.	11,550	3	6	21.5		1	1				1								
Baltimore, Md.	400,000	95	154	19.3	1	23	42	1		5	3	1	1	5			2	2	
Battle Creek, Mich.	17,000	1	1	13.9						1									
Benton County, Miss.	11,000	2	4	18.9		1													
Birmingham, N. Y.	18,000	1	3	9.7		1													
Boston, Mass.	265,000	83	154	21.9		17	52	3	3	11								1	
Brooklyn, N. Y.	265,000	156	255	23.5		20	102	8		11	3	1		4			2	1	11
Burlington, Vt.	16,500	2	1	12.9															
Burlington, Iowa	30,000	5	7	12.1						1									
Cambridge, Mass.	50,000	22	18	18.7		3				3		1					1		
Charleston, S. C.	37,000	22	42	38.4		3		1		3	1	1							
Chattanooga, Tenn.	124,000	2	2	16.9															
Cincinnati, Ill.	160,000	112	215	24.3	3	13	72	4	1	6		3	2	7			2	1	
Cleveland, Ohio.	162,000	46	101	32.1		3	46	2		1	1	1	2					1	
Concord, N. H.	11,000	3	1	17.3															
Dayton, Ohio.	30,000	5	10	13.3		1	2												
District of Columbia.	160,000	65	104	33.9		13	32	1	1	2	3		1	1			1	2	
Dubuque, Iowa	30,000	2	8	13.9		1				3									
Durham, N. C.	30,000	1	1	17.3															
East River, Mass.	4,500	1	35	37.5															
Gallopis, Ohio.	5,500	1	2	18.9															
Houston, Tex.	30,000	1	8	13.9		1													
Indianapolis, Ind.	75,714	1	1	11.3															
Jacksonville, Fla.	10,000	1	8	11.6		2	1										2		
Jersey City, N. J.	125,000	45	80	33.3		3	26			1	2			4					
Kansas City, Mo.	61,000	20	20	17.0		3	16												
Knox, Iowa	15,000	1	6	30.0		1	2							1					
Key West, Fla.	15,000	1	8	25.7		1	3												
Lafayette, Mass.	10,000	16	21	31.2		3	11	1									1		11
Louisville, Ky.	155,000	16	50	14.9		3				1				1					
Lowell, Mass.	52,000	17	28	28.9		3	10			2									11
Memphis, Tenn.	76,110	19	51	22.9		1	3										2		34
Milwaukee, Wis.	115,000	33	52	23.5		1	15			2	8		2				1	1	
Minneapolis, Minn.	52,000	13	18	18.0		10	1											1	
Mobile, Ala.	27,052	6	20	38.4		3													
Newark, N. J.	132,000	30	55	22.4		10	13										1	1	
New Bedford, Mass.	27,000	5	11	21.2		2													
New Bern, N. C.	7,500	3	4	26.7						3									
Newburgh, N. Y.	17,500	0	8	23.7															
Newburyport, Mass.	13,500		6	22.7		4													
New Haven, Conn.	60,000	3	21	18.2		2	12												
New York, N. Y.	1,097,563	344	600	28.7		2	63			35	11	9		22			1	9	11
Norfolk, Va.	24,000	20	41	33.8		1	10			2	4						3		
Peoria, Ill.	40,000	2	6	7.8															
Philadelphia, Pa.	301,750	225	405	23.4		36		4	3			1	1	6			4	2	
Pittsburgh, Pa.	115,000	30	51	25.6		1	4			4	1	1		8				1	
Port Huron, Mich.	8,191	3	3	19.6															
Portsmouth, Va.	11,000	6	8	37.8							1								
Poughkeepsie, N. Y.	20,000	1	8	20.8						3									
Quincy, Ill.	101,500	19	15	23.1		3	11	3						2			3		12
Quincy Hospital, N. Y.																			
Quincy, Ill.	35,000	1	13	19.3		1	3										1		
Reading, Pa.	40,109	8	11	18.2		1	3							1					
Richmond, Va.	59,000	15	24	15.6		2	10				1	1							
Richmond, Ind.	14,000	6	2	26.0															
Rochester, N. Y.	90,000	12	40	23.1		2	13											1	
Savannah, Ga.	33,536	8	18	28.7		1	2			3									
Sedalia, Mo.	12,000	1	1	16.7										1					
Shelbyville, Tenn.	12,000	1	4	10.4															11
Summersville, Mass.	23,000	5	7	15.9															
St. Louis, Mo.	500,000	99	173	18.0		11	55	1	1	4	9			1			3		
Saint Paul, Minn.	50,000	1	1	10.0															
Utica, N. Y.	35,000	4	9	13.1			3											1	
Waterbury, Conn.	16,000	7	10	22.6		1												1	
Wilmington, W. Va.	35,000	7	11	16.3			3											1	
Wilmington, Del.	14,014	6	12	14.2		1													
Yonkers, N. Y.	19,000	6	6	16.4			3	1		1				1					
Youngstown, Ohio	17,000	3	9	27.5		2							2						
Totals.	6,990,143	1,804	3,273	21.1	10	288	882	54	11	1	165	53	19	70		1	36	32	40

NOTE.—The places marked * have notified the National Board of Health that *hural patients* are required in such places.

The case of yellow fever in Brooklyn was brought from Havana in the ship City of Memphis, New York, one was a case taken with yellow fever last week. The total cases in New York, N. Y., in Shelbyville, Tenn., and in Louisville, Ky., occurred among refugees from Memphis.

The population of Memphis, Tenn., formerly estimated at 10,000 has been reduced to 6,110 by the people fleeing from yellow fever. See census recently made by the police department of Memphis.

Report of mortality in cities of Great Britain and Ireland for the week ending June 28, 1879.

Places.	Population.	Deaths under 1 year.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fever.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Stun-stroke.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Belfast	182,082	10	69	19.7	.....	.....	3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Birmingham	368,884	55	114	15.3	.....	.....	2	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....
Bradford	191,046	21	68	18.6	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bristol	209,947	16	66	16.1	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dublin	314,666	60	361	13.3	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edinburgh	226,475	17	70	18.4	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glasgow	578,156	46	210	18.9	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hull	146,347	13	51	18.0	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leeds	311,860	27	117	19.6	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liverpool	538,378	54	220	22.2	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
London	3,620,868	264	1,272	18.3	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manchester	361,819	25	132	19.0	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newcastle	146,948	15	70	21.9	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheffield	297,138	18	93	16.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	7,514,174	631	2,831	18.9	.....	.....	62	30	.....	.....	267	.....	106	.....	101	19	.....	50	75	.....

Report of mortality in cities of Great Britain and Ireland for the week ending July 5, 1879.

Belfast	182,082	16	98	28.0	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Birmingham	368,884	46	112	18.8	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bradford	191,046	28	73	19.8	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bristol	209,947	16	64	15.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dublin	314,666	44	139	26.4	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edinburgh	226,475	19	71	22.2	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glasgow	578,156	39	212	19.1	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hull	146,347	12	39	13.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leeds	311,860	28	103	17.2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liverpool	538,378	45	219	21.2	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
London	3,620,868	260	1,308	17.4	.....	.....	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manchester	361,819	32	151	22.1	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newcastle	146,948	11	73	27.0	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheffield	297,138	29	99	17.4	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	7,514,174	625	2,715	18.1	.....	.....	56	23	.....	.....	251	.....	115	.....	92	17	.....	31	86	.....

Report of mortality in cities of Great Britain and Ireland for the week ending July 12, 1879.

Birmingham	368,884	43	126	16.9	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bradford	191,046	15	75	20.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bristol	209,947	26	86	21.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dublin	314,666	23	135	22.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hull	146,347	13	60	21.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leeds	311,860	29	111	15.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liverpool	538,378	45	192	18.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
London	3,620,868	254	1,179	17.0	.....	.....	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manchester	361,819	36	110	20.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newcastle	146,948	22	71	25.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheffield	297,138	15	81	11.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	6,527,861	521	2,343	17.9	.....	.....	45	13	.....	.....	.....	.....	89	.....	87	12	.....	25	79	.....

Report of mortality in foreign cities for the week ending July 5, 1879.

Places.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Stun-stroke.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Berlin	1,019,171	806	1,011	20.2	.....	.....	67	126	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bremen	106,000	23	137	29.1	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Breslau	270,000	83	114	29.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cologne	110,101	32	61	22.7	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Danzig	107,216	40	62	21.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dresden	115,100	54	111	26.9	.....	.....	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Frankfort	126,003	29	46	19.0	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamburg	381,057	86	163	22.2	.....	.....	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hanover	121,363	22	41	17.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Königsberg	130,718	61	96	24.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leipsic	115,719	24	49	17.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Munich	220,000	85	163	26.9	.....	.....	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nuremberg	102,791	23	45	22.8	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Strasbourg	104,154	24	40	20.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stuttgart	105,225	33	56	27.6	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	3,334,559	1,430	4,168	.....	.....	263	226	49	.....	.....	85	.....	22	.....	21	.....	.....	16	24	.....

THE YELLOW FEVER.

During the week the fever has continued to prevail at Memphis, but has not increased. This favorable condition is due to the efforts of the authorities to depopulate the infected districts, and destroy by cleansing and disinfection all infective matters. The census given below shows that of the 16,110 people remaining, about two-thirds have had the fever. Camps for the well have been established and placed under military protection. New Orleans is the second place where fever has appeared. This city remained free from the disease, at least of a sufficiently marked type to be recognized by experts, until the 28th inst., when a young Italian woman died with well marked symptoms of yellow fever, at the corner of Second and Constance streets. No new cases have occurred at Mississippi City.

Deaths from yellow fever have occurred among refugees from Memphis, at Louisville, Saint Louis, Cincinnati, New York, and Brooklyn, but there is no evidence that the infection has gained a foothold at any other places than Memphis and New Orleans. One death has occurred from yellow fever among the stevedores at the New York quarantine, the disease being contracted in the hold of an infected vessel. The following telegrams show the progress of the fever:

Memphis, Tenn.—Dr. R. W. Mitchell reports July 26, 10 new cases and 10 deaths. July 27.—Thirteen cases and 3 deaths, since last report. Total deaths for the week, 71; yellow fever, 31; pernicious and malarial fevers, 10; other causes, 27. July 28.—Fifteen cases and 9 deaths since last report. July 29.—Thirteen cases; 1 death since last report. Census shows the total number of inhabitants to be 16,110: whites, 4,281; colored, 11,827; adults 10,579; children, 5,531; number that have had the fever, 10,413; have not had the fever, 5,695; not known whether they have had fever or not, 22. July 30.—Eight new cases and 1 death since last report. July 31.—Twelve new cases since last report; no deaths reported. August 1.—Nine new cases and 4 deaths since last report.

New Orleans, La.—Dr. Remiss writes: July 24.—I have searched carefully for yellow fever in this city, inquiring of all leading practitioners, and going myself to see suspected cases, and am free to declare my conviction that no case has occurred or now exists except that brought in on the steamer Baltimore, the clinical notes of which are among the records of the board. Several cases occurred early in June which were to my mind doubtful, but in each instance the attending physician failed to diagnose yellow fever; and it is true that there was no spread of the disease from the suspected cases.

July 25.—One case of yellow fever, corner Second and Constance streets; furniture, bedding, and clothing burned; family difficult to control in efforts at isolation. July 30.—No new cases to-day; no deaths. August 1.—No new cases since Tuesday; 5 cases and 3 deaths to date.

NOTES FROM CONSULAR REPORTS.

Port au Prince, Hayti.—Minister Resident and Consul General J. M. Langston writes, June 30, 1879:

"The existence of yellow fever in this city has led to the inquiry what, if any, has been the legislation of the Haytian Government with relation to public health. It has been found that in June, 1847, when Souleouque was President, a law was passed providing for the organization of what is termed a medical jury for each place of a Department. At the capitol this body is composed of five persons, viz, four doctors and one pharmacist. Its powers and duties relate first to public hygiene, medicine, police, and legal medicine. In case of an epidemic of a grave or contagious malady it is authorized to publish through the public journals its opinion upon the nature of such dis-

orders, how to recognize them, their probable termination, and the remedies which have been adopted with success in their treatment. In the second place it is constituted a committee with power to secure, preserve, and hold subject to the free use of practicing physicians vaccine matter, and it is authorized, as far as may be, to bring the good effects and use of this material to the attention and approval of the people. In the presence of an epidemic it is really powerless for positive and vigorous action, and since the commencement of yellow fever here, although the jury is fully organized with able members, whatever may have been the desire or purpose of such officers, it has done, as far as I can learn, absolutely nothing toward saving the community against the ravages of this fatal distemper. Nor has the local or general authority taken any action in this direction either by cleansing the city, introducing disinfectants, or making suitable provisions for isolating the sick."

St. Martin's, W. I.—Consul D. C. Van Romondt reports further in regard to the case of the young Englishman who was taken sick of yellow fever on June 19, under date of July 8:

"I have now to make known to you that the person attacked with yellow fever died on the 24th ultimo, and to the present no other case has occurred; therefore clean bills of health are issued at this island. The cause of the case referred to cannot be traced, but there is no probability that the disease will again appear."

Osaka and Hiogo, Japan.—United States Consul J. Stahel, in a letter to the State Department, under date of June 21, says: "I have to inform the department that cholera exists in the ports of Osaka and Hiogo. The Japanese Government officials, as well as the municipalities of the foreign settlements, are taking all the necessary precautionary measures."

Further information from United States Consul J. Stahel is obtained through the Surgeon-General of the Marine Hospital Service, under date of June 26, as follows:

"I beg to notify you that on the 20th instant I was informed by the governor of Hiogo that a disease termed here the cholera exists in the Hiogo ken (district), and that cases have appeared in the native towns of Hiogo and Kobe."

"There has been as yet no case in the foreign settlement of Kobe, nor in the harbor of Kobe, where the foreign ships are lying, nor in the harbor of Hiogo, where the native vessels are, but two cases of the disease appeared on a Japanese ship at Osaka on the 23d instant."

"For your information, permit me to state that I issued, on the 7th instant, to the British steamer Gordon Castle (which steamer left port on the 7th instant for New York via Suez Canal), a clean bill of health, as no epidemic existed here at that time; but I have learned since the notification of the governor of the 20th instant that single cases of disorder first made their appearance in the Hiogo ken (district) on the 27th ultimo."

"The British steamer Glenfinlas left here yesterday, the 25th instant, for New York, via Chinese ports and Suez Canal, and has a medical certificate that no disease exists in the harbor of Kobe nor settlement; also a bill of health from the British consul to the same effect."

"The British steamer Breconshire will leave to-morrow for New York via Amoy and Suez Canal."

"The port of entry for foreign ships, and which is commonly called Hiogo, is really Kobe; and the harbor of Hiogo proper is three miles from here and only used by Japanese vessels."

"The population of the Hiogo ken (district) is 1,391,298; that of the native town of Hiogo 31,264, and of the native town of Kobe, 11,506. The number of cases of the prevailing epidemic within the jurisdiction of the Hiogo ken up to noon of the 24th instant were 631, of which number about one-third have died."

"The epidemic also exists in Osaka, which is twenty-two miles from here, and although an open port, but very few foreign ships enter there. During the past year but one American ship was at Osaka. I have written to the governor of Osaka and will send you all the returns regarding the disease at Osaka as soon as I receive them."

"Being desirous to give you all the information that I can collect regarding the disease, I have requested Dr. Harris, resident physician at Kobe (late surgeon United States volunteers), to give me his views on the prevailing epidemic, and I enclose herewith a copy of his letter to me on the subject."

The following is a copy of the letter of Dr. Harris, referred to:

"The disease now prevailing in this ken is, I am inclined to believe, not perfectly identical with Asiatic cholera, though I beg you to understand that I speak from a very limited experience, as no cases have occurred among the foreigners on the Concession, and but one or two among the Japanese who are accustomed to look to me for advice. I gather from very imperfect statistics all the ideas I have of the magnitude of the epidemic.

"It is reported that since the 24th of May there have been in this ken, of about one million inhabitants, 632 cases and 212 deaths. The Japanese call it cholera, but the cases that came to my knowledge, three in all and two of them fatal, presented some distinct features which I will try to present by placing them by the side of true cholera symptoms. In true cholera there are:

"1. Frequent copious stools.

"2. They are without bile.

"3. There are cramps.

"4. There is great and rapid emaciation and shriveling of the skin.

"5. Little or no perspiration.

"6. A peculiar coldness of the extremities and of the whole body. The animal heat is rapidly parted with.

"7. It is difficult to control the evacuations, but when once controlled or stopped they do not return. In the generality of cases the patient is thought to be in a fair way of recovery.

"8. No mucus in the stools, and no tenderness over any part of the bowels indicating inflammation or any condition approaching it.

"In the disorder now observed there are:

"1. Stools not very frequent or very copious.

"2. They are usually tinged with bile, even in the fatal cases.

"3. There are no cramps.

"4. The emaciation is not very marked and the shriveling of the skin is confined almost entirely to the hands, which are cold, colder than the feet, while the body down to the knees is quite warm. This I found in a case that was pulseless.

"5. In one fatal case profuse perspiration. In the one that recovered, a warm skin moist with perspiration. In the other fatal case nothing very marked.

"6. Hands alone cold, feet less so, and body warm.

"7. It is not difficult to arrest the evacuations, and in the cases I observed this had been done before I interfered.

"8. Mucus in rope-like masses [this I think the characteristic of this disorder; one mass was lifted up before me as large around as my fore-finger and a foot long]; a tender spot about two inches above the navel.

"In regard to the arrest of the discharge from the bowels, I should have mentioned that in one fatal case they had been stopped for sixteen hours. Then the patient had two small passages and died. In the other fatal case the patient had not had a stool for twenty hours, but was pulseless when I arrived. The first fatal case died just before I reached the house, and I got my information from the Japanese physician in attendance.

"I may say here, that the last fatal case seemed to me to have died because the Japanese physician after controlling the bowels failed to apply artificial heat and to give restoratives and nourishment.

"I am afraid a judgment based upon one or two cases is very hasty, but I give it for what it is worth. My excuse is, that as we are called upon to act promptly we must reason from the few facts presented to us. Still I do not pretend to assert that the disease about us in Higo and Osaka is not cholera. The cases I have seen may be quite unlike a large number of those occurring in those towns."

Yamada W. T.—Consul George E. Hoskinson transmits, under date of June 30, the annual report on the Island Medical Department (English) for the year ended 30th September, 1878, from which the following extracts are made: "Additional experience confirms the views expressed relative to the evils consequent upon the indiscriminate and unrestricted sale of drugs by ignorant and unqualified persons. Judicial records, though at times sufficiently startling, fail to supply a correct estimate of the number of cases of malpraxis which really occur. These evils would be materially lessened and the public protected from gross imposture if unqualified vendors of medicines were required to undergo a practical examination to test their knowledge of drugs.

"The excessive rainfall during the last quarter of the year proved, under the influence of a tropical temperature, a most active factor in the promotion of malarial disease. Endemics of fever and dysentery prevailed in many districts. The inability to recognize the importance of the simplest sanitary laws, the exposure of drinking-water to frequent pollution in the vicinity of dwellings, and the occasional imperfect interment of deceased persons in close proximity to thickly peopled tenements, constitute a group of unsanitary features which, though frequently met with, can never be indulged in with impunity. The question of population being one of such vital importance it seems desirable to determine to what extent it may be practicable to supervise and improve the sanitary condition of the Island that preventable diseases shall not in future constitute so large a per cent. to the general sickness rate.

"The medical officer in charge of the Leper's Home reports that in 55 inmates there were of nontuberculate leprosy, 9; tuberculate leprosy, 9; frambesia, 11; indolent ulcers, 4; elephantiasis, 3; chronic eczema, 1; anemia, 1; eczema, 1; scrofula, 1; children free from disease, 2; 12 were males and 11 were females; two infants. Of the males 10 were colored, and 32 black, and of this number 11 were coolies. The ages vary from 12 to 85 years, 17 being under 12 years of age."

ABSTRACTS FROM SANITARY INSPECTORS' REPORTS.

Brownsville, Tex.—Inspector Dr. John H. Pope reports as follows, July 19:

"The city council met to-night to comply with the requirements of the proclamation of the governor of June 11. Dr. Main, the present incumbent, was reappointed quarantine physician at Brazos Santiago, with jurisdiction extending along the Gulf coast to the mouth of the Rio Grande. The quarantine station has heretofore been on Brazos Island, without accommodations for passengers or crew, or facilities for transfer of cargo in quarantine. A vessel was kept anchored in mid-channel, quarantine guards placed on board, the vessel fumigated, and then detained in quarantine fifteen or twenty days. The quarantine was such as to guard effectively against the introduction of yellow fever, but certainly did great injustice to the owners of the vessel, and tended to interfere unnecessarily with commerce. The vessel was the schooner Annie Chase, of New Orleans, from Tampico, with clean bill of health. The attention of the authorities was called to the necessity of immediately supplying accommodations for persons in quarantine. To-night the quarantine station was transferred to a more suitable site (Clark's Island), and a movement set on foot to procure tents for temporary quarters. Dr. Ruthertford, State health officer, has referred the question of adopting the rules of the National Board of Health relating to quarantine at Brazos Santiago and vicinity. It is not practicable, under the circumstances, to quarantine on the line of the Rio Grande river from Brownsville to the mouth, without the co-operation of the officer commanding the Mexican forces on the Lower Rio Grande. A conference was therefore had with him on the subject. He expressed himself favorable to the plan of a co-operative quarantine at Bagdad, and had already commissioned as quarantine officer Dr. C. B. Combe, an American physician of Brownsville, and furnished him with soldiers to enforce his orders. The regulations are the same as at Brazos Santiago, and Dr. Combe makes his report to the State health officer of Texas. If these pleasant relations continue, the quarantine at the mouth of the river will probably be efficient. There is but little sickness at Brownsville, though the sanitary condition of the town is not good. The same is true of Point Isabel, a village of 300 inhabitants on the mainland opposite Brazos Santiago. The attention of the authorities has been called to these facts, and promises were made that improvements should be made."

Savannah, Ga.—Sanitary Inspector Dr. A. N. Bell reports, July 24:

"The authorities have recently established, on a shoal at the mouth of the harbor, a wooden structure on piles for a boarding-station, with accommodations for quarantine officer, and hospital provision for twelve beds. Anchorage for infected vessels and place for detention of well persons and cargoes, if necessary, is at Turtle Island. The situations of these several branches of the quarantine establishment are wisely chosen, and afford ample opportunity for the proper care and safety of whatever is quarantined and for the protection of the city. The health officer of the city is required to protect the public health from the dangers incident to coasting vessels and steamboats which reach the town through the other channels. The masters of these vessels are instructed to anchor mid-river and send for the health officer if they have any disease on board; otherwise they are permitted to go directly to the wharves and send for the health officer. In either case they must allow no one to go ashore or to communicate with the vessel until the health officer shall have made his visit. On my own observation, I am satisfied that these instructions are not strictly observed. The health officer is engaged in general practice, and occasions are not infrequent where the captain takes the responsibility of letting the passengers depart, risking, and always obtain-

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, AUGUST 9, 1879.

[No. 6.]

MORTALITY RETURNS.

It is generally conceded that no branch of statistical knowledge is more difficult to obtain, in a reliable form, than that which relates to the birth, sickness, and mortality rates of a community. This is true even in countries where such returns have long been made compulsory by legal enactments of the most stringent character. Some of the defects in the returns are inherent, and others grow out of the imperfect methods of securing and recording the individual facts. The inherent defects are due to inaccuracy in diagnosis, which vitiates all conclusions. The extent of this discrepancy, frequently very great, must vary with the diseases recorded, and with localities, but can never be completely eliminated. The defect in the methods of securing returns consists in the failure to obtain all of the cases which have occurred, owing to the neglect of physicians to perform a gratuitous and often very inconvenient task. It follows that if but a portion of the cases are returned, all deductions only approximate the truth; but how nearly it is impossible to determine. If these defects exist in countries where for centuries law and custom have united to render social statistics the basis of civil administration, it will not be difficult to appreciate the defects in any similar system of statistical returns where neither the municipal authorities nor the people attach any importance to the facts and conclusions established. And such is the position of vital registration in the United States. In the publication of mortality statistics from such cities as favor the BULLETIN with weekly returns the first step has been taken, under government direction, to collate the facts and record them in tabular form. To the vital statistician these tables, even in their present form, will have an intrinsic value as showing the course of zymotic diseases, and a relative value in establishing approximately comparative death-rates from special diseases. But, for a time at least, their real value will largely consist in the encouragement they must give to those now engaged in organizing and managing vital registration in the cities which make reports, and in stimulating physicians residing in populous towns which have no system of registration to secure the early establishment of this branch of municipal service.

INFECTED SHIPS.

THE BULLETIN of last week contained an extract from a letter from Dr. Chaille, chairman of the Havana Commission, in which he called attention to the fact that several "infected vessels" were then in that port bound for ports in the United States. The proof that these vessels were infected was established by the occurrence of fever

among their crew when they had not been exposed to the infection of yellow fever in the port nor in a cargo. In other words, the source of infection must have been the vessel itself. An example was given in the case of the steamship Niagara, which, on its recent voyage to New York, had an outbreak of yellow fever among its crew. She underwent the usual cleansing and purification at quarantine, took on fresh cargo, and returned to Havana. On the evening of the day she left the port of New York one of her crew was attacked with yellow fever, and on the voyage a second came down with the same disease. These facts are taken as proving that the Niagara is now so infected as to communicate the fever to its crew and passengers. Other vessels are mentioned in the same communication as about to sail from Havana for ports of the United States, which are so certainly infected that they should be treated as infected vessels, whether fever is or is not developed among the crew on the voyage. The power of yellow fever to infect ships so that they become active agents in disseminating the disease has long been recognized, especially by naval surgeons. Striking examples have frequently been published of the occurrence of yellow fever on board naval vessels which could have had no other origin than in the hold of the vessel itself. It may justly be inferred that infected merchant vessels are much more numerous than infected naval vessels, owing to the greater exposure of the former to infected matters and things. Heretofore infected merchant vessels have escaped detection because of the absence of that thorough medical inspection, under proper regulations, necessary to the discovery of the sources of sickness on shipboard. The action of the National Board of Health in securing the services of medical men in infected foreign ports will tend directly to discover and put on record all infected merchant vessels, and enable quarantine officers to deal effectively with each vessel as it presents itself at any port of this country. Experience proves that it is extremely difficult to thoroughly destroy the sources of infection in an infected ship. The history of infected naval vessels, and notably of the Plymouth, proves that the yellow fever infection clings with the utmost tenacity to portions of the ship, and finds in the decaying wood, or other materials, recesses where it escapes the destructive effects of cold, heat, and fumigation. However difficult it may be to solve the problem of ship disinfection and purification, the one practical fact is patent in the management of such vessels in quarantine, viz. that they should never be admitted to free pratique until the question is settled beyond controversy that the source of infection is removed or destroyed.

THE YELLOW FEVER.

There appears to be no increase of the yellow fever since last reports published in the BULLETIN, and it seems to be still confined to the cities of Memphis and New Orleans. Telegrams from the latter place indicate its almost total disappearance, no new cases having been reported for several days, up to the 8th instant. One or two deaths have occurred among refugees from Memphis at several cities in the North, and several cases are reported in quarantine at New York. The following telegrams have been received since August 1, when our previous report closed:

Memphis, Tenn.—Dr. R. W. Mitchell reports, August 2, 13 cases; 4 deaths since last report. August 3, 11 cases; 5 deaths since last report. August 4, 12 cases; 2 deaths since last report. No mail for three days. August 5, 15 cases; 5 deaths since last report. August 6, 15 cases; 5 deaths since last report. August 7, 22 cases; 3 deaths since last report. August 8, 23 cases; 5 deaths since last report.

The following table shows the total number of cases of yellow fever reported daily from July 9 to 31, inclusive, together with the number of deaths for the same period:

Date.	New cases of yel. low fever.	Deaths from yel. low fever.	Deaths from other causes, week ending—	Deaths from all causes, week ending—
July 9	1	1		
10	2	2		
12	0	0	2	31
13	0	1		
14	0	1		
15	2	1		
16	0	0		
17	0	0		
18	0	0	2	31
19	0	0		
20	0	0		
21	3	2		
22	2	6		
23	10	2		
24	18	6		
25	10	0		
26	13	4	37	51
27	14	9		
28	13	1		
29	8	3		
30	12	0		
31	9	3	15	31
Total	150	56	102	164

New Orleans, La.—Dr. S. M. Bemiss reports, August 3, 2 mild cases of fever on Fifth near Constance street. Washing done in yard adjoining Spano House. August 6, no new case of fever for several days. August 7, no case of yellow fever in New Orleans for more than a week. "I think it entirely safe to resume travel and commercial intercourse with this city."

THE HAVANA YELLOW-FEVER COMMISSION.

Dr. Stanford E. Chaille, chairman of the Havana Commission, reports, under date of July 31, that the mortality report for the week ending July 26 gives 117 deaths by yellow fever and 271 by all diseases.

He has investigated the facts relative to the prevalence of the disease upon the island, and finds that "more than twenty years ago out of thirty-six towns only two insignificant ones were free from it; every seaport town had it." He claims that the first authenticated epidemic occurred in 1761, instead of 1762, and that it has continued endemic in Havana ever since the former period.

From Dr. D. M. Burgess the following facts were obtained by Dr. Chaille relative to the steamer Niagara:

"The steamer Niagara, of the line of Ward & Co., is a first-class iron passenger steamer, and made her first trip June, 1876. Notwithstand-

ing due cleanliness, &c., she went into New York with yellow fever on board on her fourth trip, about September, 1876, and has had cases on board every season since that time. These facts were obtained from the captain and are attributed by him and Dr. Burgess to faulty structure and continued infection, which both gentlemen deem remediable. The result of this faulty structure is that some two inches of bilge-water cannot be pumped out. Dr. Vanderpoel, of New York, has been notified of the chief facts. Two cases developed upon her last trip from New York prior to her entering the harbor of Havana."

ABSTRACTS FROM SANITARY INSPECTORS' REPORTS.

Inspector Dr. Wirt Johnson reports as follows:

Ospika, Miss., July 30.—This village is situated on the Chicago, Saint Louis and New Orleans Railroad, 80 miles from New Orleans. Population, 1,000; there being 800 whites and 200 blacks. The railroad passes through the town. On the east of the road the ground is low and damp. The houses are built close to the ground and the wood is decaying. It was in this part of the town that yellow fever began last year. The other portions of the town are in good condition. The board of health is at work cleansing and disinfecting. Much of the bedding used during the prevalence of yellow fever last year has been destroyed.

McComb City, Miss., July 31.—This town is situated on the Chicago, Saint Louis and New Orleans Railroad, 105 miles from New Orleans. Yellow fever was epidemic here last year. It is now in fair sanitary condition, and its board of health is actively engaged. The chief noticeable defect is the uncleanly state of the privies which are simple pits in the ground. The water supply is from wells which in many instances are located on a plane below the level of the privies. The population is 1,600.

Magnolia, Miss., July 31.—This town is situated on the Chicago, Saint Louis and New Orleans Railroad, 98 miles from New Orleans, and has a population of about 800 inhabitants. It has a board of health which is engaged in sanitary cleansing, and the town is in very good condition.

Summit, Miss., August 1.—This town is situated on the Chicago, Saint Louis and New Orleans Railroad, 108 miles from New Orleans, and has a population of 1,712 persons. The town is not in good condition owing to its unscavenged privies. Its wells are liable to contamination. The board of health intend to begin the work of cleansing in a day or two.

Dr. S. M. Bemiss, member of the National Board of Health, transmits the following from Dr. L. A. Burgess:

Pattersonville, La., July 28.—Believing that a report from this section of the country would prove acceptable to you, inasmuch as it was visited by epidemic yellow fever last year, I have to report that from Pattersonville to Franklin, a distance of 18 miles, with the town of Centreville intermediate between the two and with a densely populated country, the health has remained good up to date. Although situated in a highly malarious region the fevers resulting from this cause have not, so far, been as numerous as last season at the same time.

The want of relation existing between the pulse and the temperature, generally considered, I believe, diagnostic of yellow fever, is not to be relied upon in every instance, as I lately treated a case of intermittent fever where the pulse was 66, temperature 102. All other yellow fever symptoms were absent. Quinine interrupted the second paroxysm and the patient was up and about the same day, and has remained well ever since.

Inspector Dr. E. Harris, of New York, reports the sanitary condition of the water-front of that city, of Brooklyn, and of Long Island City, with a map upon which the districts infected with yellow fever at various times since 1792 are marked.

He refers to the early quarantine measures, and the successive removals of the station from Governor's Island to Bedloe's Island, thence to Staten Island, and finally to its present location in the lower bay.

The authorities of the cities above named are now working harmoniously for the protection of the ports from infection, and, through the efforts of Dr. Hunt, the officers of cities on the New Jersey shore are uniting in the work of inspection. Dr. Harris regards the New Jersey coast and Long Island City, with parts of Brooklyn, as far more exposed to infection than the city of New York. He refers to the case of the *Juanita Clare* as evidence of the value of the restrictions upon the dumping of ballast from infected places. This vessel, arriving from Havana last year, landed her ballast within the limits of the Brooklyn navy-yard. The result was an area of yellow-fever infection at that point.

The New Jersey authorities propose to transfer yellow-fever patients, or those having other contagious diseases, from vessels arriving in their ports to the quarantine station of New York. The city of New York is to furnish transportation for such patients.

He states that "vessels, not cargoes, are chiefly feared, and it is the sailing class rather than the line steamers which cause most damage. The health officer's prompt action upon each instance of discovered danger gives much assurance of safety. But there is greatly needed at this moment a faithful inspection of all West Indian and Mexican trading vessels, and such an inspection could best be justified by a movement for this purpose by the chief of the Marine Hospital Service. The masters, consignees, and sailors would take it as a routine matter of course and tell the hospital officer all that can be known of the sick on ship and on shore. This duty cannot be well performed by any other department."

Sanitary Inspector Dr. John H. Pope, under date of July 23, reports upon the following subjects:

1. Topography of the harbor of Brazos Santiago, of Brazos Island, Padre Island, Clark's Island, and Point Isabel on the mainland, with illustrating sketch.
2. The sanitary history, present condition, and necessities of Point Isabel, with tracings of map of the town.
3. Relative importance, recent history, and present condition of quarantine at Brazos Santiago, investigated under rules of Schedule T, Circular No 2, of the National Board of Health.
4. Defects of the quarantine at Brazos Santiago.
5. Immediate necessities in order to enforce proper quarantine.
6. Permanent quarantine station, with suggestions as to its site.
7. Proximate estimate of cost, and what the State of Texas has done.
8. Relative to mouth of Rio Grande, with sketch-map of Rio Grande from Brunswick to its mouth.
9. Relative to Clarksville, Tex., and Bagdad, Mexico.
10. Importance of Bagdad as a quarantine station.
11. History and present condition of quarantine at the mouth of the Rio Grande.
12. Strong and weak points of the present quarantine at said place.
13. Suggestions as to proper remedy for remote (permanent) application.

Dr. Pope's report is very full of interesting data upon the above subjects, and abstracts will be made from it as occasion arises.

Sanitary Inspector Dr. John H. Ranch incloses, in a letter dated "Cairo, August 3," the following:

MAYOR'S OFFICE, *Cairo, Ill., August 1, 1879.*

DEAR SIR: Until otherwise ordered, all boats plying farther South than Tiptonville, Tenn., will not be allowed to land at Cairo on their upward trip, except that permission be given to land at the upper or Cairo and Vincennes wharves for the transfer of through passengers only. Boats from the North which have lately come from districts where yellow fever prevails will not be allowed to land until after the lapse of eight days from the time of leaving such district, and until they shall produce a clean bill of health from their port of departure and inspection. The transfer of all passengers and baggage arriving from the South must be made at East Cairo, and the railroad companies will see that no passengers, except such as are permitted to stopover in the city, are allowed to leave the cars into which they are transferred until after the train is made up at the extreme northern switch of the Illinois Central Railroad and has departed from the city. No freight will be allowed to enter the city from any district where yellow fever prevails, except that freights for points north

may be transferred over the incline and taken out of the city without delay or the seals of the cars being broken. All persons entering the city, except from the immediately adjacent country, must produce certificates or other satisfactory evidence that they have not been in any district where yellow fever prevails in the last fifteen days.

By order of the Board of Health of the city of Cairo.

N. B. THISTLEWOOD, Mayor.

Sanitary Inspector Dr. Wirt Johnson writes from Jackson, Miss., under date of August 2, as follows:

Brookhaven is situated on the Chicago, Saint Louis and New Orleans Railroad one hundred and twenty-eight miles north of New Orleans, and has a population of between 2,000 and 2,500, there being about an equal number of whites and blacks. It is situated in the pine woods of Mississippi, and enjoys a good reputation for healthfulness. Its general sanitary condition is not now the best, as no systematic measures have yet been instituted to procure cleanliness. The water supply is from wells bored in the ground, which are generally between fifty and sixty feet in depth. The same privy system is adopted here as has been mentioned in connection with the other towns in this part of the State, but I think the danger of contaminating the water supply is less than in several of the other towns, on account of the depth of the wells and the fact that the soil is less porous. This place escaped yellow fever last year. On yesterday, by invitation, I attended a meeting of the board of mayor and aldermen and made some remarks on the subject of sanitation. A new town board of health was elected, which was probably organized to-day, as it was expected that they would begin work at once. The rules of the National Board were left until then for their action.

THE NATIONAL BOARD AND DISTRICT COMMISSIONERS,
OFFICE OF THE COMMISSIONERS OF THE
DISTRICT OF COLUMBIA,
Washington, August 1, 1879.

SIR: The Commissioners have the honor to acknowledge the receipt of the circular of the National Board of Health and accompanying papers, and, in reply, to say that it will give them great pleasure, to the extent of the means at their disposal, to co-operate with your Board in the execution of the important trusts committed to it by authority of recent acts of Congress passed for the security of the public health.

With this object in view, they have instructed the health officer to communicate freely with your Board, and, as far as necessary for the protection of the health of the District of Columbia, and within the limits of appropriations therefor, to adopt its rules and regulations.

By order of the Board,

Very respectfully,

J. DENT, *President pro tem.*

J. L. CABELL, M. D.

President National Board of Health.

SAINT LOUIS, MO.—At a special meeting of the board of health of this city, held July 20, the following resolution, offered by the health commission, was adopted:

Resolved, That the rules and regulations to be enforced during the existence of yellow fever, prepared and recommended by the National Board of Health, are approved and indorsed by the Board of Health of Saint Louis, and that the board of health of the city of Saint Louis pledges itself to carry out and enforce said rules and regulations as far as the same are practicable and adaptable to this city.

FRANKLIN, TENN.—The secretary of the board of health of Franklin, Tenn., transmits the following, dated August 1, 1879:

Resolved, That this board hereby adopts for its government the rules and regulations recommended by the National Board of Health for municipal boards, the same being such as are applicable to inland towns upon railroads and in communication with dangerously infected places.

Report of mortality in foreign cities for the week ending July 19, 1879.

Places.	Population.	Deaths under 1 year.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small pox.	Stro- ke.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Aberdeen	101,635	2	26	13.3	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1
Belfast	182,000	13	77	32.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Birmingham	388,884	37	121	16.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bradford	191,046	10	54	14.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Brighton	105,608	7	26	12.9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bristol	209,947	9	63	15.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cork	91,967	3	41	24.9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dublin, Ireland	314,666	35	176	29.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dundee	150,923	10	48	16.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Edinburgh	286,073	16	78	17.9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Galway	19,602	2	6	15.9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Glasgow	572,156	27	181	16.3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Greenock	76,955	2	19	12.8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hull	146,347	10	45	10.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Leeds	311,950	16	100	16.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Leicester	125,622	11	35	14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Leith	57,047	10	20	18.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Limerick	44,209	6	27	31.8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Liverpool	308,348	35	229	19.6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
London	3,620,868	262	1,190	17.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Londonderry	30,884	12	20	20.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Manchester	361,819	35	136	19.6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Newcastle-on-Tyne	148,048	18	53	22.4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Norwich	85,222	6	29	17.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Nottingham	169,396	16	47	14.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oldham	111,316	6	37	17.3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Paisley	48,023	3	24	15.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Perth	26,623	1	15	15.6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plymouth	74,293	5	16	11.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Portsmouth	131,221	5	31	13.4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Salford	175,491	1	65	19.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sheffield	297,138	23	101	17.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sligo	17,257	3	9	9.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sunderland	114,573	7	31	14.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Waterford	30,626	1	11	18.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wolverhampton	75,160	4	21	16.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals	9,381,135	672	3,478	17.6	59	18	60	110	107	14	29	93								

Reports from the following places were received too late to appear in the tables of mortality for the week ending July 26, 1879:

Austin, Tex., population 15,000; 1 death from consumption; 3 under 5 years; total, 6. Baldwin, Miss., 700; no deaths. Bay City, Mich., 15,900; 1 death, infant; no cause given. Carrollton, Miss., 600; no deaths. Chico, Cal., 5,000; 2 deaths; 1 from puerperal fever, 1 from typhoid fever. Columbus, Ga., 10,000; 1 death from consumption, 1 diarrhoea, 1 malarial fever, 2 measles, and 1 whooping-cough; total, 8, of which 2 were under 5 years. Columbus, Miss., 5,000; no deaths. Decatur, Miss., 1,000; no deaths. Fayette, Miss., 200; no deaths; "town disinfectant, and quarantine against all infected places." Greentown, Miss., 100; no deaths. Helena, Mont., 3,500; 1 death under 5 years; cause not given. Jackson, Miss., 5,000; 2 deaths; 1 under 5 years; 1 from malarial fever. Key West, Fla., 15,000; 1 death from diarrhoea, 1 malarial fever; total, 3, all under 5 years. Lawrence, Kans., 8,475; 6 deaths; 2 under 5 years; 1 cerebro-spinal fever, 1 diarrhoea. Lexington, Mo., 1,500; 2 deaths, both under 5 years; 1 from diarrhoea. Little Rock, Ark., 20,000; 1 death from consumption, 1 diarrhoea, and 1 malarial fever; total, 5, 2 under 5 years. Louisiana, Mo., 1 death from diarrhoea. Monroe, Mich., 5,166; 3 deaths from malarial fever, 1 puerperal fever, 3 scarlet fever; total, 7; under 5 years, 3. Murfreesborough, Tenn., 4,000; 1 death, infant, convulsions. Natchez, Miss., 9,500; 1 death from scarlet fever. Pontotoc, Miss., 600; no deaths. Port Royal, S. C., 1 death from old age. Sacramento, Cal., 25,000; 7 deaths; 1 from Bright's disease and 1 from pneumonia. Saltillo, Miss., 500; no deaths. San Diego, Cal., 3,000; 1 death under 5 years; no cause given. San Francisco, Cal. (burial permits are required), 200,000; 2 deaths; 1 under 5 years; 8 consumption, 5 diarrhoea, 2 diphtheria, 6 acute lung diseases, 1 puerperal fever, 1 scarlet fever, 1 typhoid fever. Shannon, Miss., 200; no deaths. Shreveport, La., 5,000; 1 death from consumption, 1 from puerperal fever; total, 3. Tulepe, Miss., 1,000; no deaths. Vallejo, Cal., 5,000; 2 deaths; 1 consumption, 1 pneumonia. Verona, Miss., 200; no deaths. Waynesborough, Miss., no deaths; population not given. Winona, Minn., 10,000; 2 deaths under 5 years; from diarrhoea; 1 from typhoid fever; total, 5.

The following places report not more than one death, from any of the diseases named in the table, for the week ending August 2, 1879:

Ann Arbor, Mich., population 7,520; 2 deaths; 1 from diarrhoea

under 5 years; 1 accidental. Appleton, Ind., 5,000; 1 from consumption. Austin, Tex., 15,000; 1 death from diarrhoea, under 5 years; total, 1. Belfast, Me., 5,278; 1 from diarrhoea. Bridgewater, Mass., 3,200; 1, typhoid fever. Inka, Miss., 1,000; 1 death; cause not given. Keokuk, Iowa, 15,000; 1, diarrhoea. Louisiana, Mo., 5,000; 1, cerebro-spinal fever. Mount Pleasant, 5,000; 2 deaths; no cause assigned. Nantucket, Mass., 3,000; 1 death; cause not given. Painesville, Ohio, 5,000; 1 from paralysis. Pittsfield, Mass.; 1 from cerebro-spinal fever; population not given. Tampa, Fla., 1,000; 1 death under 5 years, from diarrhoea. Winona, Minn., 10,000; 2 deaths; 1 from typhoid fever.

The following places report no deaths for the week ending August 2, 1879:

Aberdeen, Miss., population, 3,500. Benton County, Mississippi, 11,000. Brunswick, Ga., 3,000; burial permits required. Burlington, Iowa, 30,000. Carrollton, Miss., 600. Cedar Keys, Fla., 1,200. Edgartown, Mass., 1,700. Fayette, Miss., 2,000. Franklin, Ind., 4,000. Hudson, N. Y., 57,841. Moline, Ill., 7,000. Niles City, Mich., 1,620. Pass Christian, Miss., 4,000—during the summer. Pontotoc, Miss., 600. Ripley, Miss., 1,000. Starkville, Miss., 1,163. Tusculousa, Ala., 1,000.

Reports from the following places, for the week ending August 2, were received too late for insertion in the mortality table:

Jackson, Miss., population, 5,000; 2 deaths from diarrhoea, 1 pneumonia; total 1, one under 5 years. Monmouth, Ill., 5,000; 2 deaths; 1 consumption, 1 diarrhoea, under 5 years. Safford, Miss., 2 from malarial fever; population not given. Vicksburg, Miss., 15,000; 1 consumption, 1 diphtheria; total 1, one under 5 years.

The United States consul at Havana sends the following dispatch:

HAVANA, Aug. 7.

The following vessels are reported as having had yellow fever on board while here: *Salisbury*, *Africa*, *Barclay*, *Sagadahoc*, and *Lucy*, for New York. Since the 21th ultimo the *John Walsh* and *Trous*, for Delaware Breakwater; the *Free Brothers*, for Pascagoula; and of Spanish vessels, the *Justa* and *Salas*, no information.

HALL.

NOTES FROM CONSULAR REPORTS.

Curacao, W. I.—The United States consul, William H. Faxon, writes to the Surgeon-General of the Marine Hospital Service, June 30:

"It is reported that yellow fever is prevailing among the strangers at the island of Aruba, a few miles to the leeward of this island. Vessels from Aruba undergo quarantine for fourteen days by order of government. No sickness has yet made its appearance on this island."

Cape Haytien.—The United States consul, Stanislas Gontier, in a letter to the Secretary of State, July 7, says:

"I beg leave to say that Cape Haytien is one of the most salubrious ports in this country. For nearly nine years I have resided here I have always granted clean bills of health. Port Liberty is not, generally speaking, as healthy as this port. At times they have fevers of a local character, but not contagious. Port de Paix and Gonaïves have been healthy. The brig Shasta lost captain, cook, and two seamen in Port de Paix of yellow fever, as stated in my No. 359, which they had contracted in Port au Prince. There have been quite a number of cases of yellow fever in Port au Prince and a few cases in Miragoane; but these places are healthy now. As regards the southern parts of Hayti, I am unable to give any information to the department."

Queenstown, Ireland.—The United States consul, Hon. Louis Richmond, reports to the Surgeon-General United States Marine Hospital Service, under date of July 25, only 5 deaths for the week ending July 24, in a population of 10,000, and that no contagious or infectious diseases exist at that port.

Belfast.—The United States consul, Hon. James M. Donnan, reports to the Surgeon-General United States Marine Hospital Service, under date of July 25, that there were 77 deaths in an estimated population of 212,000 inhabitants at Belfast for the week ending July 19, none of which were from any infections or contagious diseases. [It will be observed this does not correspond with the official tables published elsewhere.]

Mahé, Seychelles Islands.—United States Consul Thomas T. Prentiss forwards to the Surgeon-General United States Marine Hospital Service eight weekly reports covering the weeks ending February 8 to March 29, 1879, from which are obtained the following facts: Population of Mahé, according to census of 1871, 11,200; prevailing diseases in February, dysenteries; deaths, week ending February 8, 5; ending February 15, 7; ending February 22, 5; ending March 1, 4; ending March 8, 4; ending March 15, 1; ending March 22, 7; ending March 29, 5. Total deaths, 41.

Singapore.—United States Consul A. G. Studer, in a report to the Surgeon-General United States Marine Hospital Service, dated June 17, 1879, says: "I have the honor to inform you that during the past week, since my last letter, there has been no appearance of epidemic and infectious diseases in this port and adjacent country under my jurisdiction, so far as I have been able to ascertain."

Vienna.—The United States consul-general, Hon. James Riley Weaver, reports to the Surgeon-General United States Marine Hospital Service, under date of July 15, as follows:

"Sir: I have to inclose the following report of deaths in this city for the weeks ending July 5 and 12, respectively:

Diseases.	Week ending—	
	July 5.	July 12.
Small-pox	4	3
Typhoid fever	1	0
Enteric fever	7	7
Scarlet fever	3	2
Diphtheria	7	6
Total	22	18
All other diseases	216	405
Total deaths	368	423

"Of the above deaths, 146 and 156, respectively, died in the twenty-five civil and military hospitals of the city. The prevailing diseases were affections of the lungs and respiratory organs, and diarrheas among children. For the two weeks 221 children under 1 year died, and the still-births were 57. The death-rate for the two weeks was

22 and 27, respectively, being unusually small for the season of the year."

Rio de Janeiro.—The consul-general, Hon. Thomas Adamson, reports to the Surgeon-General United States Marine Hospital Service as follows: "For week ending July 5, total deaths, 185; yellow fever, 10; smallpox, 2; typhus fever, 2; 'pernicious' fever, 6. For week ending July 12, total deaths, 183; yellow fever, 11; smallpox, 1; typhus fever, 2; 'pernicious' fever, 9."

MISCELLANEOUS.

MORTUARY REPORTS.—The attention of health officers and others forwarding mortuary reports upon the postal cards furnished by the National Board is called to the fact that in many instances their reports are not dated nor do they bear the name of the city or town from which they are sent. These data are absolutely necessary in all cases.

LEXINGTON, Mo.—Dr. J. B. Alexander writes, July 31: "The mayor of this city has referred to me the documents in regard to mortuary reports, in the absence of a board of health. Recognizing the great value of the results that will flow from such statistics, properly collated, I have determined to undertake the task myself and thus aid in the good work."

TUCKERTON, N. J.—Theo. T. Price, acting assistant surgeon United States Marine Hospital Service, reports through Surgeon-General Hamilton that the health of his district (Little Egg Harbor) is excellent, there having been but two deaths during the month of June last, and none in July, in a population of 1,800. Total deaths for three months ending July 31, 7.

PERU, IND.—Dr. J. H. Helm, health officer, writes, under date of August 2d: "An epidemic of scarlatina occurred within circumscribed limits in this city during the month of June; 35 cases in all occurred, with 8 deaths. Cholera infantum has prevailed to a considerable extent during the past two weeks; four deaths reported at this office. Sanitary condition of the city, not good." The Doctor adds that they wish to make an inspection of the sanitary condition of the place as early as practicable.

SICK SEAMEN IN NEW YORK HARBOR.—The following letter, addressed to the Secretary of the National Board of Health, will be read with interest when taken in connection with the recent case of yellow fever at the Presbyterian Hospital, New York:

"Sir: I have to inform you that, in view of the number of vessels now in New York Harbor from infected ports, no more seamen will be given permission by officers of this Service to enter any hospital in the cities of New York, Brooklyn, and Jersey City.

Such as cannot be cared for at the new United States Marine Hospital on Bedloe's Island will be sent to the Seaman's Retreat Hospital on Staten Island.

This has no reference to such cases as may be detained at quarantine by the health officer.

Very respectfully,

J. B. HAMILTON,

Surgeon-General United States Marine Hospital Service.

POPULATION OF MEMPHIS, TENN.—Dr. R. W. Mitchell reports the results of a census completed July 28, 1879, showing the total population remaining in the city at that time was 16,110. Of these 4,283 were white and 11,827 colored. There were 10,579 adults and 5,531 children. The number of persons who have had yellow fever is stated at 10,443, leaving 5,645 who have not had the disease, 22 not being determined. Dr. Mitchell regards the estimate of those who have not had the fever as too large, owing to the difficulty of obtaining correct statements on that point from the colored population. He thinks this census is more especially valuable as regards the sum total of white and colored at present in the city. He adds: "Tennessee and Kentucky have adopted the rules and regulations [recommended by the National Board], and they should see to it that we are not completely cut off. After this week no passenger coach will come nearer than fifty miles of this city; a locomotive will be detailed to carry the mails. They can make their rules as stringent as may be, but should keep up communication."

MERIDIAN, MISS.—At a meeting of the Lauderdale County board of health on the 28th of July, at Meridian, Miss., the following resolutions were adopted:

Resolved, That we the county board of health of Lauderdale County adopt the rules and regulations of quarantine recommended by the National Board of Health, sanctioned by the Mississippi State board of health.

Resolved, That we deem it inexpedient for the county to quarantine against any point infected with yellow fever at this time, the same being sufficiently protected by quarantine at Mobile, Ala., Meridian, Corinth, and other places on the railroads running through the county.

Resolved, That the president of the county board of health is hereby authorized to declare and establish quarantine against any infected place or district whenever he may deem it advisable and proper, and to make all other suitable arrangements for carrying the same into effect that he may deem necessary for its enforcement, in the absence of the board, but of which measures they are to be informed.

Dr. GEORGE E. REDWOOD, president of the Lauderdale County board of health, says:

Meridian is situated on the Mobile and Ohio Railroad, 135 miles from Mobile, with the Vicksburg and Meridian, the Alabama Central, and the Alabama Great Southern railroads terminating here. Hence you see that, with the great Mobile and Ohio Railroad passing through this place, and running through the State of Mississippi 369 miles to the Tennessee line above Corinth, Miss., with the Memphis and Charleston Railroad crossing at the above-named place, with a population of about 5,000 persons, that it is a place of no insignificance, from its position, &c. Besides this, we suffered greatly here last year from yellow fever, having had over 400 cases of fever with about 100 deaths; and being the only place on these great thoroughfares that suffered from that disease in an epidemic form during the last season, I would respectfully suggest to the National Board of Health to appoint an inspector, with headquarters at Corinth, Miss., or at this place, so as to supervise matters and local boards of health on these great and important routes of railroads. I think in the absence of State action, and with no means adequate to enforce and maintain such a system of quarantine as is really demanded, that some such provision should be made by your Board to aid our State. It is needed.

NEW JERSEY.—At a meeting of the State board of health, held July 16, the following resolutions were adopted:

Resolved, That the State board of health approves of the outlines and regulations recommended by the National Board of Health, and is ready to co-operate to the extent of its authority, as well as to secure the co-operation of the State authorities in carrying out their provisions.

Resolved, That in any sanitary work relating to the State, or any collection of sanitary information therefrom, such work be as far as possible executed under the associated jurisdiction of this board.

TAMPA, FLA.—John P. Wall, M. D., mayor and president of the board of health of Tampa, in an official communication dated July 31, announces that "the board of health of Tampa has adopted the quarantine rules and regulations of the National Board of Health in addition to the local regulations already established," and that the port being a place of export for cattle to the city of Havana, thereby occasioning frequent communication with that city and other ports in Cuba, assistance is asked to enable the town to more effectually prevent the introduction of yellow fever.

MEDICAL OFFICERS AT FOREIGN PORTS.—The original detail of medical officers from the Navy, to serve in foreign ports, has been revoked, neither Surgeons Thomas Hiland nor Walter K. Schofield having had the fever. Medical Inspector Somerset Robinson, of the Navy, and Dr. Daniel M. Burgess (for several years a resident of Havana) will perform the duties prescribed by recent act of Congress. Dr. Robinson has been assigned to duty at Matanzas and Dr. Burgess at Havana.

DECATUR, ALA.—A joint letter from the mayor of Decatur, J. M. Todd, and the president of the Howard Association of that place, Dr. E. B. Collins, announces the adoption of the rules and regulations of the National Board of Health, and states that Decatur is situated at the crossing of the Memphis and Charleston and the Louisville, Nashville and Grand Southern Railroads, and that they suffered terribly with yellow fever last year.

STATE AND LOCAL QUARANTINE LAWS.

QUARANTINE REGULATIONS, MOBILE.

[Prescribed by the ordinances of the port of Mobile.]

OFFICE OF PRESIDENT OF THE BOARD OF
POLICE COMMISSIONERS OF THE PORT OF MOBILE,
Mobile, May 29, 1879.

For the guidance and general information of all citizens, masters, and officers of vessels subject to quarantine regulations, the following ordinance governing quarantine matters as it stands now in full force and effect is now published:

ARTICLE IX.—QUARANTINE.

SEC. 22. *Be it ordained*, That there shall be established a strict system of quarantine, to be enforced against all vessels arriving in the bay of Mobile from any port or place where "yellow," "malignant," or "pestilential," or "infectious" fever or other infectious or dangerous disease is prevailing, or having any person on board suffering from such disease. That this article shall only be in force when so proclaimed from time to time by the president, with the advice of the board of health, and every proclamation shall define the length of time that it shall continue in force; but no action shall be taken by him unless authorized by a resolution of this board.

SEC. 23. That the board of health shall elect a quarantine physician and report the same to this board, who shall proceed to the execution of his duties. He shall receive such salary or compensation as the corporate authorities may from time to time determine; *Provided*, That the salary of said physician shall not commence until quarantine has been proclaimed. That such attendants and employees as may be required at the station shall be employed when authority be given by resolution of this board.

SEC. 24. That it shall be the duty of the physician to attend at the quarantine station; to board all vessels entering the bay or harbor of Mobile; to fully examine into the condition of the vessel and cargo, and the health of all persons therein; to examine as many of such persons on board, under oath, to learn and obtain any facts that he may deem essential and necessary; to detain all vessels coming from any infected port or place, or that has any case of disease described

in the first section of this article on board, the cargo, and every person on board, for any length of time that he may deem necessary or expedient; to direct such measures to be taken as may be necessary to purify the vessel, and supervise the same at the expense of the captain, owner, or consignee of the vessel; to direct the discharge of any cargo or portion thereof, and supervise the same at the expense of the captain, owner, or consignee of the vessel; to remove any person from any vessel who may be sick of any malignant or infectious fever or disease to the quarantine hospital; and it shall be his duty to give his professional services to said person, the expense of removal to be at the cost of the vessel; to sign all permits for vessels and persons to pass the quarantine, and all discharges for vessels or persons leaving the quarantine, without which no vessels or persons shall be permitted to leave or pass the quarantine station. And any person violating any of the quarantine regulations, he, or the owner and captain, together with the vessel to which he may belong or be a passenger, shall be fined such sum as the recorder may impose, not exceeding fifty dollars.

SEC. 25. That it is the duty of every person acting as a pilot, or revenue or boarding officer of the custom-house, to deliver to the officer in charge of every vessel coming into the bay of Mobile a copy of these regulations, or so much as may be wanted for the use of the vessel, of which the president shall have a sufficient number of copies printed. During the existence of the quarantine all pilots and other persons having charge of vessels entering the bay of Mobile shall bring such vessels to anchor at the quarantine station, and no vessel shall leave such anchorage until it shall have been boarded by the quarantine physician and shall have received permission from him to do so. Every pilot or other person violating this section shall be fined such sum as the recorder may impose, not exceeding fifty dollars.

SEC. 26. That all persons who may receive medical treatment under this ordinance shall pay, for the use of the port, five dollars for each day of such treatment. And where the persons so treated shall be unable to pay the charge, the captain, owner, or consignee of the vessel to which he may belong shall pay the same.

SEC. 27. The word "vessel", wherever used in this ordinance shall extend to boats, steamers, and water crafts of every description.

SEC. 28. That no vessel shall take on or discharge the cargo of any vessel at quarantine without a written permit from the quarantine physician, under such penalty as the recorder may impose, not exceeding fifty dollars, on the owner, consignee, or person in charge.

SEC. 29. That the president and board of health, when the public health may require it, may order any vessel at the wharves of the port, or in the vicinity thereof, to the quarantine station, and may require all persons, articles, or goods introduced into the port from such vessel to be seized, returned on board, or removed to the quarantine station. If the owner, master, consignee, or person having charge of such vessel fails or neglects to obey such requirements, each of them shall be fined such sum as the recorder may impose, not exceeding fifty dollars. And if he cannot be found, or if he neglects or fails to remove the vessel, the president and the board of health shall have the power to cause such removal at the expense of the vessel. This ordinance applies to vessels lying at anchor in the bay of Mobile and not performing quarantine. That the harbor-master and port-wardens of Mobile shall notify the president or captain of police, in writing, of any infraction of this article that shall come to their knowledge. And it shall be their duty to see that in every instance vessels arriving at the wharves of the port shall have a proper permit, signed by the quarantine physician, giving him liberty to pass the quarantine station. Any vessel failing to have such a permit shall not be allowed to remain at or in the vicinity of the wharf, but shall at once be ordered to the quarantine station. The harbor-master or port-wardens, failing to give prompt notice of any violation of this section, shall be fined such sum as the recorder may impose, not exceeding fifty dollars.

SEC. 30. That two cents per ton, according to the registered tonnage of each vessel, shall be established as the quarantine fee for all vessels entering the port of Mobile, and that the master, owner, or consignee thereof is hereby required to pay the same to the port clerk. Such tonnage fees shall be paid within five days after arrival of the vessel in port, under such penalty as the recorder may impose, not exceeding fifty dollars for each day's neglect or refusal to pay the same; and it shall be the duty of the port-wardens to report to the port clerk the arrival of every vessel and the name of the master liable to pay these fees, and if they neglect to make such reports, they shall be subject to such fine as the recorder may impose, not exceeding fifty dollars.

SEC. 31. Quarantine rules and regulations for the port of Mobile: RULE 1. The quarantine station shall be on Mobile Point, in the rear or north of Fort Morgan, or such other place as the corporate authorities may from time to time determine.

RULE 2. The quarantine physician, under the direction of the board of health, shall, in every instance, determine the length of time that a vessel shall remain at quarantine, and the time that all persons on board such vessel shall remain in quarantine.

RULE 3. It shall be the duty of the pilots or other persons bringing a vessel into the bay of Mobile to hoist a flag at half-mast at the fore until the vessel has been visited by the quarantine physician.

RULE 4. No person shall leave a vessel nor visit a vessel at quarantine without a written permit to do so by the quarantine physician.

RULE 5. The quarantine physician shall make a monthly report on the first day of every month to the board of health and police commissioners of the number and class of vessels quarantined, the number of patients treated at the quarantine hospital, the amount of fees collected, and all other information connected with the station as may be necessary and proper.

RULE 6. All vessels at quarantine shall keep a flag at half-mast at the main during the day, and the lantern in the same position at night.

RULE 7. Any violations of these rules and regulations shall be punished by a fine in such sum as the recorder may impose, not exceeding fifty dollars.

Any person coming into the port of Mobile by land from any place infected with a contagious disease, whether such person come by railroad or other mode of conveyance, may be compelled to perform quarantine by the health officer of said port, and restrained from traveling until discharged; and any railroad train coming from any such infected place carrying freight or other goods, wares, or merchandise may be required to perform quarantine, and may be prohibited from entering said port without a permit from the health officer.

SEC. 32. That the provisions of this ordinance be, and the same are, in force from and after its passage; but any contract made under them may be terminated by a resolution of this board at any time.

The following sections of the Revised Code of Alabama relative to quarantine matters are hereby also published for the benefit of all parties concerned:

§214 (963). *Vessels quarantined*.—The health officer of such town may, under the direction of the corporate authorities, cause any vessel arriving therein or in the vicinity, if the vessel or cargo is in his opinion so foul or infected as to endanger the public health, to be removed to the quarantine ground or other proper place to be purified.

§215 (964). *Refusal of information to health officer; penalty*.—If any master, seaman, or passenger belonging to any vessel supposed to have any infection on board, or from a port where any dangerous infectious disease prevails, refuses to answer on oath such inquiries as are made by any health officer relating to any infection or disease, he is guilty of a misdemeanor, and on conviction must be fined not less than one hundred dollars.

§216 (965). *Breach of quarantine; penalty*.—The master of any vessel ordered to perform quarantine must deliver to the officer appointed to see it performed his bill of health and manifest, log-book and journal. If he fails so to do, or to repair in proper time, after notice, to the quarantine ground, or departs there without authority, he is guilty of a misdemeanor, and on conviction must be fined not less than two hundred dollars.

§217 (966). *Escapes from quarantine*.—If any person ordered to perform quarantine escapes, any justice, on complaint thereof on oath, must issue his warrant to the sheriff, constable, or town marshal to arrest and deliver such person to the custody of the officers of the quarantine; and any such person attempting to escape may be forcibly detained at the place of quarantine by such officers.

§218 (967). *Travelers by land from infected districts may be compelled to perform quarantine; breach; penalty*.—Any person coming into town by land from a place infected with a contagious disease may be compelled to perform quarantine by the health officer, and restrained from traveling until discharged; and any person thus restrained traveling before he is discharged is guilty of a misdemeanor, and on conviction must be fined not less than one hundred dollars.

R. B. OWEN,
President of the Board of Police Commissioners, Port of Mobile.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, AUGUST 16, 1879.

[No. 7.]

NATIONAL CO-OPERATION WITH STATE AND LOCAL BOARDS.

Although the proper method of securing the co-operation of the National Board of Health with State and local boards in preventing the spread of yellow fever from one State into another has heretofore been published and widely circulated, it happens almost daily that applications are received at the office of the National Board which require to be returned to the parties making them by reason of their failure to comply with the conditions under which the Board is authorized to grant the desired aid. It is accordingly found to be necessary again to call attention to certain points which should be observed by State and municipal authorities in making application for aid and co-operation. To this end the following circular has been prepared and is now published.

CIRCULAR No. 7.

The following rules govern the action of the National Board of Health that present in aiding state and local boards to enforce regulations of such boards preventing the introduction of contagious and infectious diseases into the United States, or into any one State from another:

1. The regulations to be enforced are those of state and local boards, whether adopted at the recommendation of the National Board or otherwise, and not those of the National Board. The National Board has recommended certain regulations for adoption by state and local boards. Up to the present time these recommendations have been adopted by the following boards, viz:

The state boards of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, New Jersey, North Carolina, and Tennessee; the local boards of Brunswick, Ga., Brownsville, Tex., Bayou Sara, La., Cairo, Ill., Carlinsville, Ill., Decatur, Ala., Delhi, La., Fernandina, Fla., Huntingdon, Tenn., Jacksonville, Fla., Landerdale County, Mississippi, Meridian, Miss., Mobile, Ala., Pensacola, Fla., Shelbyville, Tenn., Saint Louis, Mo., Tampa, Fla., Vicksburg, Miss.

The regulations of the above-named boards are therefore to a certain extent uniform, and approved by the National Board, and therefore are such as it will aid in enforcing when necessary.

State and local boards which have not adopted the recommendations of the National Board are requested to do so as soon as convenient, in order to secure uniformity of action.

It should be observed that these recommendations are for a minimum amount of precaution, and therefore that additional precautions may be taken by state or local

boards if deemed necessary, it being borne in mind all the while that the end in view is to secure or restore the public health by measures which interfere with travel or traffic as little as possible; in other words to render commerce *secure*; and (with rare exceptions) *not to put an end to, or even suspend it*. In this connection it is proper to add that non-intercourse quarantines, especially by local authorities, are not approved by this Board.

2. Applications to the National Board of Health for aid should be made by or through the state board; or in case there is no state board, then by or through the Governor of the State.

3. Applications for aid should give *details* of what is required, and the estimated cost for each item. Amongst other things should be specified the duties and powers of the officers whose appointment or payment is requested.

4. The application should be accompanied by an official certificate from the governor of the State or the mayor or other chief officer of the municipality, respectively, to the effect that there are no state or municipal funds available to carry out the particular sanitary measures because of which the application is made. Official information should be given therein of the adoption by such state or local board of any rules and regulations that have been recommended in such case by this Board, and of any other state or local rules and regulations that appear to be necessary for the purpose in question.

5. Of the supplies required for the sick those furnished by this Board to local authorities shall, as a general rule, be applied to other objects than those of shelter and furniture, which should be furnished by such authorities. Where however it shall be otherwise ordered the local authorities will be expected to account to this Board from time to time for the safe-keeping and proper use of the furniture, provisions, medicines, &c., so furnished.

6. Whenever this Board shall order the erection of temporary buildings, or provide any buildings for the purpose of quarantine, the necessary contracts therefor shall be made by one of its own officers or agents, subject to the approval of the Board or of its executive committee.

7. Care should be taken that the officers to be paid from funds furnished by the National Board are employed only in such number and for such time as there is actual need of their services. The National Board of Health reserves the right of judging from time to time, by means of reports received from its own agents, whether such need exists.

8. Funds are not furnished by the Treasury to state or local boards. They are placed in the hands of the disbursing clerk of the National Board of Health, by whom bills, properly certified and approved, will be paid by check on Washington or New York. All bills must be in accordance with the estimates as approved by the Secretary of the Treasury, must be made out in duplicate on forms furnished by the National Board, and be *certified*, as to their correctness, by some authorized officer of the state board or by the Governor of the State, and must be approved by some member or special inspector of the National Board duly authorized.

The names of all persons whose services as inspectors, &c., are to be paid for out of its funds must previously to their appointment be submitted to and approved by the National Board.

It is expected that at the close of the season a full report will be made by state boards of health to the National Board as to their operations in carrying out those rules and regulations for the prevention of the spread of yellow fever, in which the National Board has rendered aid and co-operation, and it is desired that copies of all orders issued from time to time to inspectors shall be promptly furnished to this Board.

It is to be remembered that a full account of its expenditures must be made by the National Board of Health to Congress, and that such account ought to set forth these expenditures in detail, and exhibit their propriety and necessity.

It is therefore essential that state and municipal boards shall co-operate with the National Board in supplying material for such an account, and it is earnestly desired that they will preserve and furnish due evidence of the propriety of each item of their expenditure for both persons employed and articles purchased with the funds in question; particularly as the future aid of both State and National Boards must depend largely upon the record for efficiency and economy made during the year now current.

THE YELLOW FEVER.

The following dispatch from Warner P. Sutton, United States consul at Matamoros, to the Secretary of State, is dated at Brownsville, Tex., August 10:

Reliable information from Tampico, August 1, says: "We have a yellow-fever epidemic worse than New Orleans last year. People die like flies. Quarantine at Bagdad against Tampico still efficient."

The following dispatch was received on the 12th instant from Havana:

Norwegian bark *Energy*, already reported, is probably infected. *Ellen McNamee*, for New York, and *Caspian*, for Dohay Island, had sickness. *Caspian* possibly infected. *Orbiton* and *Norlon Steamer*, for New York via Cardenas, had sickness while here.

HALL.

The following dispatches will show the progress of yellow fever in Memphis, continued from those in No. 6 of the BULLETIN:

Memphis, Tenn.—Dr. R. W. Mitchell reports, August 9, 23 cases and 5 deaths since last report. For week ending August 9, 134 cases and 23 deaths; deaths from other causes, 13; total deaths for the week, 42. August 10, 21 cases; 5 deaths since last report.

August 11, 29 cases; 5 deaths since last report. Local board of health has declared yellow fever to be epidemic. August 12, 34 cases; 6 deaths since last report. August 13, 22 cases; 5 deaths since last report. August 14, 23 cases; 10 deaths since last report. August 15, 40 cases; 5 deaths since last report.

MISCELLANEOUS.

The board of health of Saint Mary's, Ga., on the 9th of August unanimously adopted the rules and regulations of the National Board of Health. A. F. Barnard, M. D., is health officer and *ex officio* president of the board of health at Saint Mary's. Dr. E. A. McWhorter is secretary of the board.

Dr. H. P. COLLE, secretary of the Board of Health of New Market, Tenn., reports, under date of August 6: "Our town has been placed in good sanitary condition. Population about 500. No epidemic of any character and only 1 death during the week. No quarantine measures enforced here. 'Cleanliness' our motto."

Dr. G. P. COXX, secretary of the New Hampshire Medical Society, Concord, under date of August 5, says: "I do not think there is more than the usual amount of sickness in New Hampshire, yet there were 85 deaths in the city of Manchester (with a population of 25,000) last month, and we have always had the strongest opposition from that city in our legislature to a State board of health. Last year, in July, they had 95 deaths."

ADOPTION OF RULES AND REGULATIONS.—The local Board of Health of Columbus, Miss., and the Lowndes County Board of Health, on the 11th of July last, adopted the rules and regulations recommended by the National Board of Health.

The State Board of Health of North Carolina adopted the rules on the 1st instant.

The local Board of Health of Bayou Sara, La., adopted the above rules on the 6th of August.

The State Board of Arkansas approved the rules, &c., August 9.

Dr. J. W. COMPTON, under date of August 11, gives some statistics of an epidemic of scarlet fever in Evansville, Ind., which had prevailed there since January last, remarkable for its continuance rather than severity. The public schools continued fully attended, against the protest of Dr. Compton, who ascribes to that cause the maintenance and propagation of the disease. In a population of 10,000 there were 570 cases and 121 deaths. Ratio of cases to population, 14.25 per 1,000; of deaths to population, 3.02 per 1,000; of deaths to number of cases, 21.23 per cent. The ages of the patients were, under 1 year, 49 cases; 1 to 3, 105 cases; 3 to 6, 142 cases; 6 to 10, 130; 10 to 20, 101; 20 to 30, 15; 30 to 40, 20; 40 to 50, 5; and 50 to 70, 3 cases. Total, 570. Deaths at the several ages not given. The time of the record is from January 1, 1879, to August 11.

NATIONAL BOARD OF HEALTH rooms are located corner Fifteenth and H streets, n. w.

SANITARY INSPECTORS' REPORTS.

Inspector Dr. A. N. Bell furnishes a map of Savannah, and reports, under date of August 1, as follows:

Savannah.—The area of the city thus mapped out and built over is about two miles square, standing on an elevated plain or sandy plateau fifty feet above tide-water, fronting the Savannah River on the south, circumscribed on the northern, eastern, southeastern, and western borders with extensive lowlands from one to three feet below tide-water, most of which was until recently, and some of which is now, under wet rice-culture.

The yellow-fever epidemic of 1876 having been attributed, by some persons, in great part, to the extensive wet culture of rice in the vicinity of the city, an act was passed the following year "to provide for the drainage of Chatham County, so as to protect the State from the epidemics of yellow fever and other diseases." Under this act an intelligent commission was appointed, which has done much excellent work by draining a large portion of the swampy region lying on the eastern flank of the city, comprehending several miles square, bordering on the Ogeechee Canal and extending to the river, and Teynac and Cnyler swamps, on the southeastern border, converting the lands into dry culture and lessening, it is said, the ratio of malarial diseases.

The general plan of the city of Savannah is too well known to require extended description. Its broad streets and beautiful squares at every alternate crossing, shaded with magnificent trees festooned with moss, have been so often described and pictured as to require mention only because they seem to have monopolized and diverted attention from less attractive but much more important conditions in relation to the public health. Between and intersecting these magnificent streets and squares, and the rear of the houses which front upon them, are an equal number at least of narrow lanes, many of them sunless by reason of the high walls which inclose the back yards which they bound. Into these narrow lanes open the stables, the back-yard drains, and the kitchen gates for the convenience of filth-throwing of every conceivable kind. Of pavements, there are none worthy the name; a few only, on the shipping-streets, consist of broken stones, to facilitate cartage, but none which will efficiently shed the surface-water or prevent the absorption of filth. The sidewalks are but little better—badly laid out, and of poor material. A porous, sandy surface is the common receptacle of every species of filth. And in the midst, all over the city, at the most prominent crossings and corners of both streets and lanes, street pumps are conspicuous. One hundred and thirty-five of them appear on the last report to the mayor, and these only fifteen to twenty feet deep—just deep enough to catch and suck up the first subsoil drainage, saturated with the filthy drainage of the overloaded sand. Within the walled inclosures, in the back yards, there are more than as many more pumps in still more dangerous proximity to the kitchen-sink waters, and are an average of about twenty-five feet distance from the privy vaults! Of these vaults there are at present estimated to be no less than 4,000 throughout the city, laid in brick without cement, leaking their liquid contents into the soil and drinking-water, and filling the air with foul emanation. And thus it has been with hundreds of them for a century!

The water-works, which have been in use about a dozen years, are situated near the river, and take their supply just at the outlet of the Musgrove Creek and Ogeechee Canal swamps, two large sewers about one hundred feet off (below) on one side, and the Central Railroad wharf, at which the New York steamships discharge cargo, cleanse, and load. Besides these sewers and drains, which empty right at the place of the water-works inlet from the river, all the other sewers and drains of the city empty into the Bilbo Canal. The outlet of this famous open sewer is into the river, about a mile and a quarter below those above described. The rise of the tide in the river at the water-works is from five to six feet. During some period of every flood-tide, therefore, the contents of the Bilbo Canal are met at the mouth and flooded up to the place of inlet of the water-basins, adding to the mass of impurities of the sewers and drains constantly in service at that particular point. The number of people in the city who use the reservoir water and those who use pump water are supposed to be about equally divided; there were no statistics on the subject. No one that I conversed with about the water seemed to be quite satisfied with the supply; thought it might be better, but did not think it really bad—only a little brackish. No analysis of it seems to have been made since its introduction. But, without this, there is now an enabling bill before the legislature for obtaining water a mile and a half farther up the river, where there is still a rise of tide four or five feet, certainly carrying up the sewage in dangerous amount even beyond that distance. I suggested to the mayor and others of the health department the propriety of seeking water from deep water-bearing strata below the river-bed, two or three hundred yards west of the present works, which could be utilized in such a source of supply, and probably of very superior quality to any which can be obtained from the river, considering that in addition to the risks of the sewage set-back by the flood-tide from Savannah there is also constantly coming down stream the sewage of Augusta.

A pure water supply is Savannah's first and greatest necessity. Until it is obtained there appears to be no practical way of getting

rid of the privy vaults, foul soil, and foul atmosphere, which, with impure water, constitute a source of danger to her people of enormous magnitude.

Inspector Dr. A. N. Bell reports, under date of August 8, relative to quarantine in the Beaufort districts, as follows:

For a clearer understanding of the relations of these quarantines to the dangers of yellow fever through them to Savannah and Charleston, your attention is invited to the marked charts herewith.

1. Port Royal and Beaufort (Coast Survey chart No. 435): present residence of the health officer on Ladies' Island, marked "R"; boarding station and anchorage ground for infected vessels, Beaufort River, marked "B." "A," stations which admit of easy escape from vessels anticipating quarantine to common steamboat landings on inside passages, and diluents of efficient policing. I recommended change of health officer's residence to place marked "H O R," on Station Creek, Phillips Island, on land believed to belong to the United States, and where now exist the remains of a government dock; for boarding station, the mouth of Beaufort River opposite place chosen for health officer's residence, and anchorage ground for infected vessels between the mid-river shoal and Paris Island, marked "I V." On either side of Station Creek, accessible and yet sufficiently distant from health officer's residence, tents and sheds, or more permanent structures if deemed necessary, may be erected at a safe distance from one another, for the care of the sick, the well, and merchandise, and all without encroachment upon or in danger of any population. In the selection of these stations I was accompanied and aided by the health officer, Dr. Johnson, Dr. Stuart, president of board of health of Beaufort, and Dr. Kidder, U. S. N., of U. S. R. S. New Hampshire.

2. Coosaw (Coast Survey chart No. E35). The importance of this place is due to the number of men employed here and herabouts in the phosphate works. In the one establishment and factories at Coosaw, at the time of my visit, there were about 600, nearly all negroes, besides several smaller gangs on and in the river within a few miles. It is a place of considerable and increasing commerce. On examination of the collection record at Beaufort, of forty-nine vessels which arrived at Coosaw during the months of July, August, and September, 1878, twenty-five of them were from ports in South America, West Indies, Africa, and Cape de Verde Islands, where yellow fever frequently prevails. The dumping place for ballast is about half a mile above the chief factories, and the stevedores engaged in it in constant communication with the establishment. The residence of the health officer, Dr. Sams, is at present Buzzard Island, on Bull River, marked on the chart "R."

Boarding station, at the mouth of Bull River, marked "B." The portion of the river between this station and Combahee River is common dredging ground for phosphates, where vessels frequently anchor, and where many flats are employed with large gangs of men. There were two ships and five flats in this reach at the time of inspection.

Coosaw has escaped yellow fever thus far, but under the conditions which at present obtain it is in considerable danger. This opinion is shared by the superintendent of the chief works, Mr. Lopez, who especially complains of the dangers incidental to the boarding station, in passing and repassing, if a ship should be infected and sent back to the anchorage near other vessels and flats with large gangs of men. I recommended a change of the health officer's residence to Hutchinson's Island, place marked "H O R." The space between the two creeks which bound this place north and south is ample and suitable for the erection of tents and sheds, or more permanent structures, whenever deemed necessary, without danger from too close proximity to one another or any population.

The health officers' residences of both these quarantines are fixed by law: For Port Royal, on Paris Island; and Coosaw, on Morgan's Island, but the officers have been permitted to change on their own account. While the places designated by the law are less objectionable than those now in use, they are, for evident reasons, inferior to those herein advised and approved of by Dr. R. E. Liddell, the supervising health officer of the State, who promises his influence for effecting the changes recommended.

Being not yet prepared to report in full on the quarantine at Charleston, I only have to say, at present, it is well situated and diligently administered.

I purpose proceeding from this place to Georgetown on Tuesday next, and thence, after a few days, to Wilmington, N. C., at which place please make my next post-office address.

New schedules received.

SAMUEL COHEN, M. D., President.

S. S. HARRIS, M. D., Sec. and Treas.

OFFICE OF BOARD OF HEALTH OF LOUISIANA.

New Orleans, August 11, 1879.

One case yellow fever July 23, result not given; July 24, died July 27; 1 July 25, died August 1; 1 July 26, died July 31; 2 July 23, and 1 July 25, recovered; 1 case occurring July 25 and 1 July 29 were considered doubtful; both recovered. The names of the patients are given in the report.

Report of mortality in cities of the United States for the week ending August 9, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

Places.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Bacterial diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Pneumonal diseases.	Scarlet fever.	Small pox.	Stroking.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Baltimore, Md.	400,000	72	164	21.4	2	21	30	4	.....	1	1	1	.....	.....	.....	.....	.....	4	3	.....
Boston, Mass.	375,000	140	221	30.7	.....	19	108	5	.....	6	9	2	.....	1	4	.....	.....	2	4	.....
Brooklyn, N. Y.	564,148	150	265	22.5	.....	19	90	.....	.....	1	2	1	.....	1	1	.....	.....	1	10	1
Burlington, Vt.	16,500	4	7	22.1	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cambridge, Mass.	50,000	15	20	31.2	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charleston, S. C.	57,000	14	25	32.4	.....	.....	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chattanooga, Tenn.	12,000	7	9	30.1	.....	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ohio	240,000	62	105	19.5	.....	10	13	2	.....	2	2	.....	.....	.....	.....	.....	.....	1	2	.....
Cleveland, Ohio	175,000	45	78	25.2	.....	1	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbus, Miss.	39,000	5	11	14.5	.....	1	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dayton, Ohio	100,000	47	83	37.9	.....	11	21	.....	.....	4	1	.....	.....	1	1	.....	.....	.....	.....	.....
District of Columbia	39,000	10	14	23.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elizabethtown, Pa.	100,000	54	96	25.1	1	9	25	.....	.....	4	2	.....	.....	1	3	.....	.....	.....	3	.....
Fall River, Mass.	7,500	2	5	34.5	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indison County, New Jersey	100,000	54	96	25.1	1	9	25	.....	.....	4	2	.....	.....	1	3	.....	.....	.....	3	.....
Jackson, Tenn.	7,500	2	5	34.5	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jacksonville, Fla.	40,000	10	20	26.0	.....	2	5	3	.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....
Lawrence, Mass.	175,300	22	44	13.1	2	2	.....	.....	.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Louisville, Ky.	52,000	17	29	25.0	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lowell, Mass.	52,000	17	29	25.0	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marshall, Mich.	32,000	12	17	17.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Memphis, Tenn.	32,000	12	17	17.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minneapolis, Minn.	40,000	3	10	13.4	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nashville, Tenn.	27,055	10	11	21.1	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newark, N. J.	11,500	10	12	35.6	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newburgh, N. Y.	15,500	2	5	18.9	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newburyport, Mass.	25,000	13	24	46.2	1	.....	12	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Bedford, Mass.	27,000	10	710	33.0	3	73	238	10	1	47	10	5	.....	.....	6	1	.....	5	3	.....
New York, N. Y.	1,007,363	44	20	43.5	.....	1	8	.....	.....	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Norfolk, Va.	30,000	7	7	12.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Omaha, Neb.	145,000	35	61	21.9	.....	5	19	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pittsburgh, Pa.	8,200	4	4	25.1	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Huron, Mich.	104,500	39	51	25.5	.....	5	18	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portland, Me.	104,500	39	51	25.5	.....	5	18	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Providence, R. I.	10,109	13	20	25.5	.....	2	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Reading, Pa.	80,000	24	39	25.4	.....	3	9	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Richmond, Va.	14,000	2	2	7.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Richmond, Ind.	32,650	7	14	22.3	.....	1	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Francisco, Cal.	25,000	10	13	25.5	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Savannah, Ga.	32,650	7	14	22.3	.....	1	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Somerville, Mass.	25,000	10	13	25.5	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Springfield, Mass.	500,000	7	110	14.5	1	.....	31	1	1	1	5	2	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis, Mo.	18,000	3	5	13.5	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saint Paul, Minn.	18,000	3	5	13.5	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vienna, Miss.	18,000	3	5	13.5	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington, Del.	18,000	3	5	13.5	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yonkers, N. Y.	18,000	3	5	13.5	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	4,925,224	1,341	2,386	25.2	12	216	728	45	2	2	93	31	9	4	30	1	.....	32	40	1

CITIES IN WHICH BURIAL PERMITS ARE NOT KNOWN TO BE REQUIRED.

Allegheny, Pa.	75,000	32	35	24.3	.....	1	12	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Atlanta, Ga.	50,000	5	20	25.2	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aurora, Ill.	14,550	2	7	25.1	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bangor, Me.	20,000	1	5	18.2	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bath, Me.	10,000	3	3	15.6	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Birmingham, Ala.	18,000	1	6	17.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cedar Keys, Fla.	1,200	2	3	13.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill.	557,624	118	199	19.3	.....	13	55	7	3	.....	2	3	.....	.....	3	.....	.....	.....	.....	.....
Concord, N. H.	11,000	2	4	14.9	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dubuque, Iowa	30,000	1	2	13.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Evansville, Ind.	37,500	5	16	22.2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Houston, Tex.	30,000	6	6	10.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indianapolis, Ind.	97,000	16	25	13.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lawrence, Kans.	8,475	1	9	15.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marblehead, Mass.	7,500	3	4	27.9	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milford, Mass.	10,000	1	8	41.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minneapolis, Minn.	124,000	10	20	25.5	.....	.....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Haven, Conn.	10,000	10	23	25.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patterson, N. J.	40,000	13	41	27.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pensacola, Fla.	8,500	1	3	18.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Philadelphia, Pa.	901,380	222	391	22.6	1	.....	.....	5	3	.....	10	1	.....	.....	2	7	.....	.....	.....	.....
Pittsfield, Mass.	20,000	1	9	23.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Poughkeepsie, N. Y.	35,000	5	11	16.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quincy, Ill.	5,000	3	10	18.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sacramento, N. Y.	35,000	11	17	25.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Utica, N. Y.	16,000	2	4	13.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Waterbury, Conn.	35,000	9	13	19.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wheeling, W. Va.	14,043	7	11	16.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Youngstown, Ohio	17,000	2	3	9.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	2,290,745	527	966	21.9	9	80	158	21	6	2	25	24	4	8	15	.....	2	26	7	.....

* Chattanooga has 8,000 white and 1,000 colored population; deaths, 4 white, 3 colored. Rate per 1,000, white, 30.1; colored, 30.0. District of Columbia has 106,000 white, 24,000 colored; deaths, 39 white, 14 colored. Rate per 1,000, white, 19.2; colored, 42.5. Nashville has 15,285 white, 3,500 colored; deaths, 5 white, 6 colored. Rate per 1,000, white, 11.8; colored, 32.9. Norfolk has 14,087 white, 9,943 colored; deaths, 5 white, 15 colored. Rate per 1,000, white, 18.5; colored, 75.9. Savannah has 15,493 white, 13,161 colored; deaths, 5 white, 9 colored. Rate per 1,000, white, 14.9; colored, 30.9.

† Wheeling has notified the National Board of Health that burial permits are required.

Monthly mortality reports of United States cities for June and July, 1879.

Places.	Month.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerise-splial fever.	Consumption.	Diarrhoeal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Stomachic.	Typhoid and typhoid fevers.	Whooping-cough.	Yellow fever.
Detroit, Mich.	June	127,000	137	213	20.1	11	10	129	1	1	5	16	3	1	1	5	1	1	1	3	1
District of Columbia	do	160,000	144	44	33.3	69	129	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Holly Springs, Miss.	do	3,000	1	1	4.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jacksonville, Fla.	do	10,000	11	15	15.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Knoxville, Tenn.	do	13,250	6	15	13.2	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Omaha, Neb.	do	30,000	33	13	13.2	6	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Satara, Neb.	do	30,000	33	13	13.2	6	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Burlington, Vt.	July	16,500	19	26	18.9	1	12	4	1	1	1	1	1	1	1	1	1	1	1	1	1
Chattanooga, Tenn.	do	12,000	11	29	29.0	1	5	10	1	1	1	1	1	1	1	1	1	1	1	1	1
Chicago, Ill.	do	537,624	763	1,094	24.4	16	51	356	34	2	10	32	3	5	9	31	1	1	1	1	1
Columbia, S.C.	do	11,300	12	35	35.5	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Elmira, N.Y.	do	29,436	6	13	7.6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Holly Springs, Miss.	do	3,000	2	2	8.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lansing, Mich.	do	8,529	1	6	8.3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Marshall, Mich.	do	3,000	1	1	3.3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
New Haven, Conn.	do	60,000	31	106	20.6	12	22	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Norfolk, Va.	do	24,000	11	26	13.0	1	5	27	1	1	1	1	1	1	1	1	1	1	1	1	1
Omaha, Neb.	do	30,000	12	27	10.8	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plattsburgh, N.Y.	do	15,000	7	14	11.2	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Portland, Ohio	do	10,000	11	11	11.2	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Providence, R.I.	do	101,000	71	17	22.1	21	41	5	1	5	1	1	1	1	1	1	1	1	1	1	1
Rochester, N.Y.	do	90,000	132	17	17.6	2	7	26	1	1	1	1	1	1	1	1	1	1	1	1	1
Selma, Ala.	do	7,675	1	21	33.6	1	3	14	1	1	1	1	1	1	1	1	1	1	1	1	1
Wheeling, W. Va.	do	30,000	25	32	12.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wilmington, Del.	do	44,013	21	24	22.1	11	17	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals		1,365,414	1,348	2,643	24.9	18	232	701	64	4	23	61	23	5	18	49	1	1	1	1	1

NOTE.—In these cities having a large colored population, the death-rate among that class is usually much higher than among the whites. The mortality tables will hereafter be arranged to show this difference, when the data are obtained.

THE following places report not more than one death for the week ending August 9 from any of the diseases named in the mortality tables:

Beloit, Wis., population 5,000; 2 deaths; consumption 1, ulceration of stomach 1. Benton County, Mississippi, 11,000; 1, malarial fever. Brunswick, Ga., 3,000; 1 from accident. Burlington, Iowa, 20,000; 1 under 5 years, diarrhoea. Calais, Me., 7,000; 1, consumption. Edgartown, Mass., 1,700; 3 deaths; 1 accidental, 1 infant, from debility. Franklin, Tenn., 1,800; 1, abscess in neck. Franklin, Ind., 1,000; 1, consumption. Gallopis, Ohio, 5,500; 2 deaths; 1 under 5 years from diarrhoea. Keokuk, Iowa, 15,000; 2 deaths; 1 under 5 years; no cases given. Mount Pleasant, Iowa, 5,000; 1 unknown. Murfreesborough, Tenn., 4,000; 1, consumption. Nantucket, Mass., 3,000; 2 deaths; 1 cancer, 1 dropsy. Niles City, Mich., 1,600; 1 under 5 years from diarrhoea. Painesville, Ohio, 5,000; 1 cholera-morbus. Pass Christian, Miss., 4,000; 1, consumption, from New Orleans. Rome, Ga., 5,000; 2 deaths; 1 measles, 1 meningitis. Sandusky, Ohio, 15,000; 1 cholera-morbus. Vicksburg, Miss., 15,000; 1 colored infant 1 day old.

THE following places report no deaths for the week ending August 9:

Battle Creek, Mich., population 10,000; Bridgewater, Mass., 3,000; Carrollton, Miss., 600; Decatur, Miss., 1,000; Greenwood, Miss., population not given; Inka, Miss., 675; quarantine hospital, N. Y., reports 3 cases of yellow fever, but no deaths; Raymond, Miss., population not given; Ripley, Miss., 1,000; Salem, Ohio, 5,000; Shelbyville, Tenn., 2,000; Starkville, Miss., 1,163; Tuscaloosa, Ala., 1,000; Wesson, Miss., 2,000.

REPORTS from the following places were received too late to appear in the mortality table for the week ending August 2:

Bay City, Mich., population 12,500, reports 1 death, 1 under 5 years; causes not given. Beloit, Wis., 5,000; no deaths. Chees, Cal., 5,000; no deaths. Clinton, Mich., population not given; 1 cholera-morbus. Decatur, Miss., 1,000; no deaths. Franklin, Tenn., 1,800; no deaths. Helena, Montana, 3,500; no deaths. Bernardsville, N.J., 2,000; no deaths. Indianola, Tex., 2,000; 1 from diarrhoea. Key West, Fla., 15,000; 3 deaths, 1 under 5 years; causes not given. Lexington, Mo., 1,000; 2 deaths; no cause given. Little Rock, Ark., 29,000; 17 deaths, of which 10 under 5 years; 1 diarrhoea, 2 malarial fever, 1 whooping-cough, 1. Los Angeles, Cal., 14,000; 5 deaths, 2 under 5 years; 1 from consumption; 1 diarrhoea. The town is a resort for consumptive pa-

tients. Morton, Miss., 200; no deaths. Murfreesborough, Tenn., 4,000; no deaths. Natchez, Miss., 5,500; 1 death from diarrhoea; 2 under 5 years; total 5. Newark, N.J., 132,000; 66 deaths, 23 under 5 years; consumption, 7; diarrhoeal diseases, 11; diphtheria, 2; lung diseases, 2; malarial fever, 1; typhoid fever, 1. New Orleans, La., 210,000, of which 155,000 are whites and 55,000 colored, reports 59 deaths among the whites and 37 colored; deaths under 5 years, 17 white and 47 colored; consumption, 11 white, 13 colored; diarrhoea, 10 white, 5 colored; Bright's disease, 3 white; lung diseases, 1 white, 1 colored; malarial fever, 1 white, 2 colored; typhoid fever, 3 colored; yellow fever, 3 white. Norwich, Conn., 17,000; 13 deaths, of which 11 under 5 years; consumption, 1; diarrhoea, 2; whooping-cough, 1. Reading, Pa., 40,100; 21 deaths, of which 10 under 5 years; consumption, 1; diarrhoea, 13; scarlet fever, 1. Sacramento, Cal., 25,000; 1 puerperal fever, 1; pneumonia, 1; puerperal fever, 1; whooping-cough, 1. Salt Lake City, Utah, 25,000; 10 deaths, 1 under 5 years; consumption, 1; diphtheria, 1; whooping-cough, 1. San Diego, Cal., 3,000; no deaths. San Francisco, Cal., 300,000; 62 deaths, 25 under 5 years; consumption, 5; diarrhoea, 2; diphtheria, 2; pneumonia, 5; puerperal fever, 1; typhoid fever, 3. Tampa, Fla., 1,000; 1 death from dropsy. Vallejo, Cal., 5,000; 1 death; cause not given. Verona, Miss., 1,000; 1 death from dropsy. Wesson, Miss., 2,000; 1 death from erysipelas.

Sanitary Inspector Dr. S. H. Collins writes from Forest Hill, Shelby County, Tennessee, under date of August 11, the following report:

Under orders from Dr. Cochran, I arrived at this point to investigate a reported case of yellow fever. I find the patient, a boy of 10, a refugee from the infected northern district of Memphis, at a farm one mile south of the railroad station, which is twenty miles east of Memphis. This boy left there upon the 5th instant, and was taken sick upon the evening of the 7th. I find the case on this its fourth day well marked. The patient occupies a small outbuilding, apart from the other buildings upon the place. Upon arrival I gave orders that no one on the place except his two nurses be allowed in the building. Having all necessary supplies, I also cut off all the people upon the place from communication with the neighbors. In this way I expect to stop matters just at this point. I have applied to John Johnson, esp., for a quantity of disinfectant, "Zincum" and sulphur, which will be most thoroughly applied to, in, and about the building. After the termination of the case the little building used by the patient I shall advise to be destroyed by fire. As this case developed three days out of Memphis in a boy coming from an infected district, as he is isolated, with no near neighbors, in a building situated upon high ground, I do not apprehend a further spread. The mother of this boy is also here, who is liable to succumb to the poison absorbed in Memphis. The other people on the place are blacks, all unaccustomed.

DR. DANIEL M. BURGESS, in a dispatch from Havana, of August 14, announces that he has accepted appointment as Sanitary and Quarantine Inspector under the National Board of Health, and reported to the consul-general.

DR. WIRT JOHNSON, Sanitary Inspector, under date August 13, telegraphs from Vicksburgh that he was about to proceed to Mayersville. A dispatch to him from the board of health at that place stated that there were no more cases of yellow fever there.

INSPECTORS' REPORTS.

Sanitary Inspector Dr. John H. Pope, under date of August 2, 1879, writes from Corpus Christi, Tex., as follows:

Brazos Santiago quarantined against New Orleans on the 20th ult. When I left that port preparations were being made to quarantine the steamship Hutchinson, then *en route* with freight from New Orleans. The people on Brazos Island were being removed, with the exception of the pilot's family. The warehouse at Brazos wharf was to be used for transferring cargo and fumigating. Goods generally considered most dangerous (such as those included in "first class" under section 12 of quarantine law of the port of New York) were to be fumigated as well as circumstances would permit. Other classes of freight would be passed with very little delay. Any sick passengers were to be cared for on Brazos Island. The well were to be accommodated in tents on Clark's Island.

In my report of July 23 I submitted approximate estimate of wharf, warehouse, &c., on Clark's Island. The estimate was intended to include the cost of site. Colonel Haynes, collector of customs at Brownsville, was then trying to find for me the owner of the property. He only ascertained on the eve of my departure that the title (by him considered valid) was in a lawyer named Powers and a merchant named Straub, both of Brownsville. One of the parties was absent, and he could not tell what price they valued the property at.

In a conversation with Mr. J. Genilla, agent of Morgan's steamship line and manager of the Rio Grande Railroad, I stated the difficulties attending the building of a warehouse for quarantine purposes at any safe point in the harbor of Brazos Santiago. He expressed himself as desirous of assisting any effort to carry out a rational quarantine; stated that he had no doubt that those interested in the transportation lines at that point would build a warehouse on Padre Island, and allow the one on Brazos to be used for quarantine purposes free of cost to the quarantine authorities. He did not say they would rebuild it at their own expense, should it wash away in a storm. This arrangement would suit very well in connection with accommodations for passengers on Clark's Island.

The owners of the property on Brazos Island are George P. Davis, of Point Isabel, J. Genilla, and — Kelly, of Brownsville. Mr. Davis informed me that the property cost about \$1,000, and would probably be now held at \$3,000. The open (uncovered) wharf is about 110 feet by 30 feet. The warehouse is about 80 by 30 feet, all built about five years ago, and in good repair. If desired, I will send a sketch of the house and surrounding buildings on a definite scale.

Dr. Conble informed me that a dispatch had been received at Matamoros saying one of the English steamers had cleared from Vera Cruz for Brazos Santiago. If this ship is quarantined, and allowed to unload at the latter port, it will necessitate the continued use of the Brazos warehouse for quarantine purposes.

There is no point between Brazos Santiago and Corpus Christi Pass where infection of contagious diseases could be introduced by a vessel of any kind, there being no passages through Padre Island, and no ports nor villages near the shore line from Point Isabel to Corpus Christi. The charts and tracings intended to accompany my report of July 23 were not finished and handed to me until the day of my departure from Brazos Santiago; they were mailed on my arrival here.

I was at Indianola only a short time on my route to Corpus Christi, not long enough to personally inspect affairs there. I left with the health authorities a statement of most of the points on which I desired information, and an answer is promised by the time I return next week.

Only small sailing-vessels come to Corpus Christi, and these generally from Indianola. A channel is being dredged through the bulk-head at Corpus Christi Pass, but no vessels enter there yet. Aransas Pass has little more than four feet of water on the bar at ordinary tide.

The quarantine station is at Shell Bank (inside Aransas Pass), which also lies across the only route from here to Indianola. I shall be unable to report on quarantine at this port until I visit the quaran-

tine station, as the quarantine physician has all his books and records there, about twenty miles from Corpus Christi.

The evils of a want of uniform quarantine regulations and co-operation between the various local boards in this district are more apparent than ever since cases of yellow fever have been reported in New Orleans. Indianola has not quarantined New Orleans (July 31). The town of Cuero, on the railroad from Indianola to the interior, sent word to the mayor of Indianola that Cuero would declare quarantine against Indianola if the latter port did not restrict communication with New Orleans. The health authorities of Corpus Christi seem inclined to quarantine New Orleans, and speak of quarantining against Indianola unless that city does the same. Under the present circumstances it is impossible for a passenger leaving one of the ports here to foresee whether he will be quarantined at the next.

I am mindful of the law leaving the settlement of these differences to the State health authorities. But these can take no cognizance of the matter until the overt act is committed; then the State authorities must make personal investigation into the merits of the case before a decision can be rendered. By the time the health officer could reach some of the ports in this district and the decision could be made, an ordinary quarantine would have been exhausted.

August 3.—Learning that there was no mail leaving here after six o'clock yesterday until six o'clock to-morrow (4th), I have kept open this report until after the special meeting of the city council to consider the adoption of the quarantine regulations of the National Board of Health. The council passed resolutions adopting the said regulations, subject to the approval of the State health officer, with such additional local regulations as may be deemed necessary for this port. I have requested a copy of the resolutions, which will be forwarded to your office in due time.

The city council also declared quarantine against New Orleans and Morgan City, placing restrictions on all goods leaving those places after August 1. There seems to be a strong disposition to quarantine Indianola, unless that port also restricts its commerce with New Orleans.

I have only partially examined into the sanitary condition of Corpus Christi. I have inspected the streets as to cleanliness and drainage. The natural drainage is excellent, but the gutters are not kept sufficiently open. In that portion of the town inhabited by the better classes, the streets are generally kept clean; but in the suburbs (of the town (farthest from the bay), inhabited principally by Mexicans, the sanitary condition is very bad. Little of almost every description is seen in the streets and about the premises. Physicians inform me that the only sickness (mild malarial fevers) in the town is confined to that portion last alluded to. It seems that nothing but the continued drought and the strong sea-breezes gives thus much exemption from severe forms of fever during existing local conditions. I am informed that the health authorities have sanitary inspectors at work, and garbage carts to remove the filth. I shall hereafter make a more specific report on the sanitary condition here.

There has been less breeze for the past week than at any time during my tour; the morning calms last longer, and the breeze, as a general thing, does not blow so briskly. Some local rains have occurred. At Indianola I was informed that a considerable shower fell there a day or two before my arrival. On my way from there to Corpus Christi we passed through a shower of short duration, after which our little vessel was becalmed for ten hours.

Sanitary Inspector J. B. Palmer, M. D., reports, under date of August 5, 1879, as follows:

I have made inspection of Mobile and herewith inclose my report. The sanitary condition is, in my opinion, something alarming. For over three weeks there has been rain every day, and that succeeded by a great deal of heat. The system of "water-closets" is largely in favor of the sink or pit closets, and I am informed by the chief of police, Captain Williamson, that it is only obligatory to have them attended to once during the year. You can imagine what condition they very necessarily must be in. In consequence of the porousness of the soil and the large amount of rain-fall, the pits are nearly all of them up to the level of the ground. A great many of the people, too poor to pay for drinking-water from the reservoir which supplies the more wealthy classes, are compelled to drink well-water, and as the wells are not generally more than ten feet, and oftentimes contiguous to the water-closets, you can well imagine the dangers to which they are exposed.

During the dry seasons the sewers are never flooded, because the water supply is so limited, and hence they are never washed out unless the rain comes and deluges them. In the pits are emptied the refuse matter from night-vessels, and in many instances the kitchen refuse is also poured into these places. Of course last year, when there were over two hundred cases of yellow fever here, all the deposits and vomit were emptied into these festering pits, and now there is no doubt about it, things are very unsanitary here. When I have approached the authorities upon the subject they have said that yellow fever will come whether you are clean or not. "How about the Rock of Gibraltar?" they say; "what is unsanitary about that?" I tell them to wait and see. Memphis was not in a worse condition last year than is Mobile to-day. I have seen no evidences of yellow fever here, but there is a great deal of malaria on the suburbs of the city.

The maritime quarantine will be in perfect working order as soon as the proper buildings are constructed, and they have already gone to work with your concurrence and aid. With reference to inland measures, the system is very lax on account of not having sufficient means for carrying on the work. They have no houses of any kind at their quarantine rendezvous, no means of fumigating goods or any thing calculated to bring disease, and they are without means for employing a health officer. They have nonnally quarantined against New Orleans, but I regard it as being defective. I made estimates for needs in this respect which I forwarded to your honorable Board last week.

I will make my report of Biloxi, Mississippi City, Pass Christian, and Pearl River the latter part of the week.

Inspector Dr. Wirt Johnson reports, under date of August 7, as follows:

Meridian is situated in the pine-woods region of Mississippi, at the junction of four railroads, viz.: It is the terminus of the Vicksburg and Meridian Railroad, the Alabama Central Railroad, and the Alabama Great Southern; the Mobile and Ohio Railroad passes through the town. It is 135 miles, a little west of north, from Mobile, and 111 miles due east from Vicksburg. Its population is said to be about 6,000, there being nearly an equal number of whites and blacks. It is a point of some importance, when viewed from a sanitary standpoint, on account of its railroad communication. Last year it was visited by yellow fever. Should Mobile become infected, its danger would be greatly increased.

While the town is not in the best sanitary condition, it could not be said to be very unsanitary.

The water supply is from wells dug in the ground and not very deep. The contents of the privies are received on the surface of the ground in most cases, and in consequence it occurs to me that there is danger of the water supply becoming contaminated. The president of the city board of health, however, informed me that in many instances proper receptacles were being provided for the privies.

There is a city board of health there, and the president of the county board also resides there. Both boards have adopted the rules of the National Board, except to adopt a proviso in connection with Rule 15 relating to railroads, which reserves the right to exclude persons, baggage, and freight from an infected locality for a specific number of days.

The city board is at work cleaning up and using disinfectants.

I inclose the estimate of the cost of quarantine made by the city board of health. I requested them to itemize it, but they failed to do so, and as they informed me that they had already had some correspondence with your Board on the subject, I have concluded to send it as it is. The amount asked for I think is reasonable, and therefore feel no hesitation in recommending it for your consideration. The people at Meridian, as elsewhere in this State, are apprehensive of another epidemic of yellow fever, and many have already left their homes.

A large percentage of the population of almost every railroad town in the State, that have not already gone, are like an army under marching orders, ready to move at a moment's warning. Many of the people of this State weeks ago commenced making their arrangements to sojourn away during the summer in anticipation of an epidemic. Physicians generally encourage this movement where parties are able to go.

Inspector Dr. A. R. Kirkpatrick reports his inspection of Mandeville, Saint Tammany Parish, Louisiana, under date of August 7, as follows:

In compliance with the order of Dr. S. M. Bemiss, I visited the town of Mandeville, making the acquaintance of Dr. A. Givens, who kindly aided me in my inspection, and imparted such data as are here given. Mandeville is now perfectly healthy, there being not a single case of fever in the place, with a population of 1,200 or 1,300, mixed, of negroes and whites, many of the latter being creole French. This latter class are remarkable for fecundity and longevity, having large families of children, and several heads of families being eighty and ninety years old. Dr. Givens knew one old female, several years ago, who had four fully developed mammary glands, all of which supplied milk for her children, and sometimes two children would be sucking on one side at once (not twins), like pigs.

This year has been remarkably dry, although there are frequent rains in New Orleans and elsewhere. There are cases of intermittent and remittent fever every summer, but yield to remedies. Less sickness this year than usual. Last year, during the prevalence of epidemic yellow fever in New Orleans, there were a few cases developed in Mandeville, in subjects who went there from New Orleans infected with the malady, but of those cases there were only two deaths. During the prevalence of the epidemic in New Orleans there were many cases of malarial fever in Mandeville. This is a matter which

deserves more scrutiny by impartial, unbiased observers, viz., that there should be always so many cases of (so-called) malarial and hemorrhagic fevers during yellow-fever epidemic. The belief is getting to be general among unprejudiced physicians and hygienists that these are really cases of mild yellow fever.

Early in 1878 there was a crevasse in the levee on the Mississippi River at Bonnet Carré. The waters rushed through and overspread the fields, woods, lowlands, and marshes, which all found its way into Lake Pontchartrain. Carried along by this flood were immense masses of mud, decayed leaves, decayed grass, and every conceivable kind of debris and filth, which were driven by the winds across the lake to Louisburgh and Mandeville. This killed thousands of fish, eels, shell-fish, and even snakes, and for several weeks in the summer the air was so loaded with miasma that it was suffocating and highly offensive, especially when the winds blew off the water to land.

The dead fish, mingled with mud and decaying vegetable matter, were drifted ashore by tons along the beach at Mandeville and Louisburgh, a smaller village two miles west of Mandeville.

The waters of the Mississippi River still run in through the Bonnet Carré crevasse, and ever since the occurrence there are not so many fish in Lake Pontchartrain. It had before that been famous for furnishing redfish, croakers, sheep-head, and many varieties of the more common kind, as well as crabs and other crustaceans, but they are scarce now.

The soil in this region is sandy loam; the growth consists of pine, live oak, water oak, gum, sweet gum, birch, dogwood, magnolia grandiflora, &c. About half a mile all along the coast in the rear the land gradually rises several feet to a fine, high, undulating, cultivated pine forest. There are several springs of fine water, and a few of them possess medicinal properties. The water from the Abita (*abete*) springs is slightly ferruginous, and also possesses decided diuretic properties. I tasted some; there was nothing perceptibly different from eastern water, but there is an appearance of slight milkiness when seen through a glass tumbler. The water was analyzed several years ago by Prof. J. L. Riddell, of the Louisiana Medical College, and also more recently by Prof. Joseph Jones. The Abita springs are owned by August Bohn, and he has fitted up bath-houses, as the water relieves rheumatism. The springs are 2 miles from Mandeville and 2 miles from Covington. The Strawbridge sulphur springs are on the Bayou Fala, 2 miles north of Covington. All these springs are resorted to by invalids from the surrounding country and New Orleans and other towns, and nearly all receive benefit from drinking and bathing.

BEAUREGARD, MISS., August 3, 1879.

DEAR SIR: The following report of Jackson, Miss., is respectfully submitted:

The town of Jackson, the capital of Mississippi, is situated on Pearl River, and at the junction of the Chicago, Saint Louis and New Orleans Railroad, running north and south, and the Vicksburg and Mississippi Railroad, running east and west. It is one hundred and eighty-three miles north of New Orleans and forty-five miles east of Vicksburg. It has a population of about 6,000, there being nearly an equal number of whites and blacks.

The water supply is from underground cisterns that are constructed of brick and cement. The privies are entirely on the surface of the ground; an effort is made to disinfect and keep them clean.

While the town is not very unsanitary, it could not be said to be in good sanitary condition. At this time no sickness is present except the usual malarial diseases, which are not abundant.

The sewers of the town are open ditches or drains, and the main sewer of the town is a bayou or creek, which in wet weather pours its contents into Pearl River, but in dry weather the water becomes stagnant and collects in holes. This stagnant water has a deleterious effect on the health of the town, which is clearly evidenced by the occurrence of more sickness along the banks of the stream than, perhaps, any other section of the town.

The country on the west and north of the town is undulating; on the east and south, low and damp.

The public buildings of the State are located here, viz., the Blind Asylum, the Deaf and Dumb Asylum, the Lunatic Asylum, and the Penitentiary. These institutions are all in good sanitary condition. This town is liable to epidemics of yellow fever, and should New Orleans or Vicksburg become infected, would be in great danger.

Yellow fever prevailed in epidemic form here last year. Since the epidemic much sanitary work has been done. An effort was made to destroy all infected bedding in the town, which I think was done effectually. Most of the houses in which yellow fever cases occurred have been subjected to the fumes of burning sulphur. The city board of health has adopted the rules of the National Board of Health, except it reserves the right to exclude to a number of days persons and things from an infected locality.

The town has not established a quarantine again, neither Memphis or New Orleans, but quarantine rules have been adopted. The county (Hinds) in which Jackson is located has, however, quarantined against both points mentioned.

I inclose you will find the estimates for quarantine purposes made by the town board of health. The city is poor and is in debt, but

agrees to contribute one-third of the amount. I regard the estimate reasonable, and therefore recommend it to your consideration.

Dr. P. T. Baly is the president of the board of health.

Very respectfully yours,

WIRT JOHNSTON,
Sanitary Inspector.

Dr. T. J. TURNER,
Secretary National Board of Health, Washington, D. C.

STATE AND LOCAL QUARANTINE LAWS.

JACKSONVILLE, FLA.

[Quarantine regulations No. 1-1-79.]

The following rules and regulations have been adopted by the board of health:

By virtue of the laws of Florida and the ordinances of the city of Jacksonville, the board of health of the city of Jacksonville hereby resolve and adopt the following regulations governing quarantine:

1. That the quarantine headquarters is hereby established at Mayport, near the mouth of the Saint John's River, at which place the port physician shall reside during the continuance of the quarantine, from the 1st of May to the 1st of November, unless otherwise directed. The port physician shall not absent himself at any time from his post without the permission of the president of this board of health.

2. It shall be the duty of the port physician to see that these regulations are strictly enforced, without fear or favor, and any infringement on his part of these regulations shall subject him to immediate dismissal. He shall also see that the pilots and masters of vessels strictly obey these regulations, and immediately report any infraction thereof by any of them to the president of the board of health.

3. The port physician shall make a monthly report to this board of the date of arrival, name of each vessel and masters and pilots, and amount of fees collected of all vessels he may have inspected.

4. The port physician shall be entitled to collect from the master of each vessel inspected, if such inspection is made in day-time, the sum of \$3, and if at night \$5, and for disinfecting any vessel or boat such fees as the State quarantine laws prescribe. Such fees shall constitute his salary until otherwise ordered.

5. Until further orders a quarantine station is hereby established for all vessels or steamboats that may arrive by the inland passage through the "Sisters" at a point on the Saint John's River opposite the ship-yard dock, near the city, where such vessels or steamboats shall be required on their arrival to anchor and remain until inspected by the city physician, who is hereby clothed with the same power and authority as the port physician holds for vessels arriving over the bar, and to be subject to the same rules and be entitled to the same fees. All steamboats or vessels coming from up the river Saint John's which may have shipwrecked persons or baggage aboard are hereby required to proceed to this quarantine station, there to remain and not permit any passengers or crew nor freight or baggage to land or be landed until inspected and permitted by the city physician to make a landing.

6. All vessels arriving over the bar from the 1st of May to the 1st of November from any foreign or American port or ports south of Florida (which places are hereby designated as "infected ports"), or having touched at any such foreign or infected port, shall, if there be no sickness aboard, be quarantined for fifteen days. All vessels coming from any port within the United States which this board of health may at any time declare to be an "infected port" shall also be quarantined for fifteen days; and all such shall be subject to the provisions of the State quarantine laws and such further regulations as this board may now or shall hereafter prescribe.

7. It shall be the duty of pilots, during the continuance of the quarantine, to conduct to the quarantine station all vessels arriving over the bar, and bring them to anchor at the quarantine grounds, there to remain for such time as the port physician may designate; and the said pilots shall immediately notify the said port physician, by flying the national ensign at the foremast, of the arrival of such vessels, and the said pilots shall hand to the master of such vessel a copy of these regulations.

8. It shall be the duty of the port physician to visit all vessels arriving over the bar into the harbor, not exceeding three hours after such arrival is reported by the pilot, as heretofore provided, and at once inspect said vessel or vessels. If the vessel so inspected cleared from a port not quarantined, nor has touched any infected port, and is in good sanitary condition, he shall give a certificate of health and allow the vessel to proceed; but if such vessel be in a foul or in unsanitary condition, he shall order said vessel into quarantine until thoroughly cleansed, fumigated, and put in proper condition; then to report the facts to the president of the board of health. If the president of the board is satisfied that the vessel is restored to a proper sanitary condition, and without probable jeopardy to the health of the city, then, by order of the president, the port physician shall give said vessel a certificate of health, and allow her to proceed to her destination. Any person or persons violating any of these rules and regulations shall, on conviction thereof before the mayor's court,

be fined not exceeding one hundred dollars and be imprisoned not exceeding twenty days, at the discretion of the president of the board of health.

9. Any vessel arriving from any port herein designated or hereafter designated by the board of health as an "infected port," having sickness on board, shall remain in quarantine until released by the board of health, and to be subject to all the provisions of the State quarantine law, with the penalties therein prescribed.

L. MC CONIHE,
President Board of Health.
A. W. KNIGHT,
City Physician.

Attest:
L. B. KNIGHT, City Clerk.

PORT OF CHARLESTON, S. C.

The act of the general assembly of this State, establishing quarantine at Georgetown, Charleston, Saint Helena Sound, Hilton Head, and Beaufort, will go into operation at the above ports on Thursday, the 1st of May, at sunrise, and continue until the 31st of October, at sunset.

Health officers and pilots are referred to the quarantine laws for all details of their duties.

"SEC. 15. No vessel or boat shall pass through the range of vessels lying at quarantine or have any communication with them, or land at the quarantine grounds or lazaretto, without the permission of the health officers.

"SEC. 16. No lighter shall be employed to load or unload vessels at quarantine without permission of the health officer, and subject to such restrictions and regulations as shall be imposed."

Penalty for violation of this act is fine and imprisonment.

By order of the governor.

ROBERT LEBBY, M. D.,
Health Officer Charleston Harbor.

Vessels requiring examination will, on their approach, display their colors in the fore rigging; those not subject to visitation will have theirs set in the main rigging.

All vessels from ports where infectious diseases prevailed at the time of their departure, and all vessels having had a case of such disease on board during their voyage, as well as those having sickness on board at the time of their arrival, will be required to anchor below the present anchorage of the United States vessels.

No vessel will be visited by the health officer until she shall have been brought to anchor.

The law will be rigidly enforced and no indulgence given in case of its violation.

Pilots and others desiring further information can obtain the same on application at my quarters on Cane Island.

JNO. A. JOHNSON, M. D.,
Health Officer Hilton Head and Beaufort.

MAY 1, 1879.

PORT OF PORT ROYAL, S. C.

An Ordinance defining the quarantine rules for the town of Port Royal.

Be it ordained, by the intendant and wardens of the town of Port Royal, in town council assembled, and by the authority of the same:

1. That the health officer, Dr. J. A. Johnson, and his successors in office, are hereby authorized, by virtue of this ordinance, to board and examine all vessels from all foreign ports, and coastwise ports south of Hilton Head, during the quarantine seasons (from the 1st of May to the 1st of October).

Be it further ordained, by the authority of the same:

2. That no vessel from any foreign port, or from any coastwise port south of Hilton Head, shall be allowed to moor at the wharves within the town of Port Royal without a written pass from the health officer at the quarantine station. The pass is to be presented to the harbor master, whose duty it shall be to report to the intendant any and all violations of this ordinance.

Be it further ordained, by the aforesaid authority:

3. That any and all vessels coming from infected ports shall be thoroughly fumigated with Cammin's disinfectant, or some other well-known fumigator, at the quarantine ground, and at the expense of said vessel, vessels, owners, or consignees, and if after ten (10) days' quarantine there shall be found no disease on board, said vessels shall, upon a written pass from the health officer, be permitted to proceed up to the wharf.

Approved this the 5th day of June, A. D., 1878.

CLAS. B. MUNDAY,
Intendant.

S. H. ROBERTS,
Acting Clerk of Council.

Pilots will be suspended from duty who fail to observe the provisions of the above ordinance.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, AUGUST 23, 1879.

[No. 8.

THE subjoined Circular No. 7 is reprinted from the last number of the BULLETIN, with the addition of a new section relating to weekly reports from state and municipal boards of health. Further rules may be added from time to time as experience may suggest to be necessary and proper.

CIRCULAR No. 7.

The following rules govern the action of the National Board of Health at present in aiding state and local boards to enforce regulations of such boards preventing the introduction of contagious and infectious diseases into the United States, or into any one State from another:

1. The regulations to be enforced are those of state and local boards, whether adopted at the recommendation of the National Board or otherwise, and not those of the National Board. The National Board has recommended certain regulations for adoption by state and local boards. Up to the present time these recommendations have been adopted by the following boards, viz:

The state boards of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, New Jersey, North Carolina, and Tennessee; the local boards of Brunswick, Ga., Brownsville, Tex., Bayou Sara, La., Cairo, Ill., Carlinville, Ill., Decatur, Ala., Delhi, La., Ferdinand, Fla., Huntington, Tenn., Jacksonville, Fla., Lauderdale County, Mississippi, Meridian, Miss., Mobile, Ala., Pensacola, Fla., Shelbyville, Tenn., Saint Louis, Mo., Tampa, Fla., Vicksburg, Miss.

The regulations of the above-named boards are therefore to a certain extent uniform, and approved by the National Board, and therefore are such as it will aid in enforcing when necessary.

State and local boards which have not adopted the recommendations of the National Board are requested to do so as soon as convenient, in order to secure uniformity of action.

It should be observed that these recommendations are for a minimum amount of precaution, and therefore that additional precautions may be taken by state or local boards if deemed necessary, it being borne in mind all the while that the end in view is to secure or restore the public health by measures which interfere with travel or traffic as little as possible; in other words, to render commerce secure; and (with rare exceptions) *not to put an end to, or even suspend it*. In this connection it is proper to add that non-intercourse quarantines, especially by local authorities, are not approved by this Board.

2. Applications to the National Board of Health for aid should be made by or through the state board; or in case there is no state board, then by or through the Governor of the State.

3. Applications for aid should give *details* of what is required, and the estimated cost for each item. Amongst other things should be specified the duties and powers of the officers whose appointment or payment is requested.

4. The application should be accompanied by an official certificate from the Governor of the State or the mayor or other chief officer of the municipality, respectively, to the effect that there are no state or municipal funds available to carry out the particular sanitary measures because of which the application is made. Official information should be given therein of the adoption by such state or local board of any rules and regulations that have been recommended in such case by this Board, and of any other state or local rules and regulations that appear to be necessary for the purpose in question.

5. Of the supplies required for the sick those furnished by this Board to local authorities shall, as a general rule, be applied to other

objects than those of shelter and furniture, which should be furnished by such authorities. Where however it shall be otherwise ordered the local authorities will be expected to account to this Board from time to time for the safe-keeping and proper use of the furniture, provisions, medicines, &c., so furnished.

6. Whenever this Board shall order the erection of temporary buildings, or provide any buildings for the purpose of quarantine, the necessary contracts therefor shall be made by one of its own officers or agents, subject to the approval of the Board or of its executive committee.

7. Care should be taken that the officers to be paid from funds furnished by the National Board are employed only in such number and for such time as there is actual need of their services. The National Board of Health reserves the right of judging from time to time, by means of reports received from its own agents, whether such need exists.

8. Funds are not furnished by the Treasury to state or local boards. They are placed in the hands of the disbursing clerk of the National Board of Health, by whom bills, properly certified and approved, will be paid by check on Washington or New York. All bills must be in accordance with the estimates as approved by the Secretary of the Treasury, must be made out in duplicate on forms furnished by the National Board, and be *certified*, as to their correctness, by some authorized officer of the state board or by the Governor of the State, and must be approved by some member or special inspector of the National Board duly authorized. All bills for services rendered or for articles furnished local or state boards must be sworn to by the person rendering the service or furnishing the articles.

The names of all persons whose services as inspectors, &c., are to be paid for out of its funds must previously to their appointment be submitted to and approved by the National Board.

It is expected that at the close of the season a full report will be made by state boards of health to the National Board as to their operations in carrying out those rules and regulations for the prevention of the spread of yellow fever, in which the National Board has rendered aid and co-operation, and it is desired that copies of all orders issued from time to time to inspectors shall be promptly furnished to this Board.

It is to be remembered that a full account of its expenditures must be made by the National Board of Health to Congress, and that such account ought to set forth these expenditures in detail, and exhibit their propriety and necessity.

It is therefore essential that state and municipal boards shall co-operate with the National Board in supplying material for such an account, and it is earnestly desired that they will preserve and furnish due evidence of the propriety of each item of their expenditure for both persons employed and articles purchased with the funds in question; particularly as the future aid of both State and National Boards must depend largely upon the record for efficiency and economy made during the year now current.

Addendum—August 21.

9. State and municipal boards of health which receive aid from this Board are requested to furnish weekly reports to this office of their operations, including copies of orders issued by them and of reports made to them by their quarantine and sanitary inspectors with reference to the occurrence of cases of yellow fever and to measures adopted for isolating such cases; such reports to be presented in a form suitable for publication in the BULLETIN.

Cities requiring burial permits will be placed in the proper table on notifying the National Board of Health of their omission.

INSPECTORS' REPORTS.

A report of the inspection of Morgan City and surroundings, made under instructions of Dr. S. M. Bemiss, member of the National Board of Health, by Dr. I. P. Davidson, inspector National Board of Health:

In compliance with the instructions furnished me by Dr. Bemiss, August 1, to "proceed to Morgan City and make a careful inspection of that place, surroundings, and all intermediate points, and report facts and suggestions based upon these facts to the National Board of Health at Washington," I beg leave respectfully to submit the following report:

Morgan City, a port of entry, 80 miles from New Orleans, in the parish of Saint Mary, Louisiana, is situated on the east bank of Berwick's Bay, near its head and the debouchure of the Teche. Berwick's Bay in front of the city is over 1,000 yards in width, deep enough for sea-going steamers, and an excellent harbor.

On the west side of the bay is the little village of Berwick, in the ship-yards, docks, and saw-mills having a population of about four or five hundred.

The city is situated on an island encompassed by Bayou Beuf, Berwick's Bay, Flat Lake, and Lake Palout. This island is about nine miles long, and has an average width of between two and three miles. The elevation of the land above the tide-waters of the bay is about four feet.

The city is compactly built with wooden edifices on the street fronting the bay and on Railroad avenue, running east and west at right angles with the river. Its population, as stated by the mayor, Mr. Charles H. St. Clair, is somewhat over 3,000—an approximate estimate, as no census of the inhabitants has been taken since the year 1875. The colored population exceeds the white about one-fourth.

The whole of the day on the 6th instant was devoted by me to a careful personal inspection of the streets, public buildings, private residences, and stores, and in inquiries addressed to prominent citizens, including the members of the board of health.

From these sources of information I learned that after the epidemic of 1875, and up to the beginning of the spring of this year, a considerable sum of money (over \$5,000) was expended by the city authorities in improving the sanitary condition of the city, and the concurrent opinion was expressed that the city presented a better state than during the past year.

My fortuitous arrival at the time of a flooding rain enabled me to get a better idea of the condition of things than I could have formed had my visit occurred during continued dry weather. Whatever work had been done by the city council fell far short of the necessities of the case, for I found, I regret to say, a very deficient drainage generally. The ditches on either side of the streets running at right angles to the bay, and the main conduits, therefore, of the drainage of the streets, are inadequate to the purpose, at best, and are choked up with a rank growth of weeds and grass, and in many places obstructed by articles of various kinds thrown into them, while the lateral ditches parallel with the bay are too small and shallow, equally obstructed as the larger ones, into which they should discharge themselves. Thus the drainage of the general surface is illy provided for, while the areas of the lots occupied by stores and dwellings were found to be low, with standing water in many of them, and almost all unclean from accumulations of refuse articles of every description.

I was informed by the police officer on duty, by the landlady of the hotel where I lodged, and by others, that the common practice was to throw all garbage into the streets and ditches, where it was permitted to lie, notwithstanding a city ordinance prohibited such practice and required its removal by a scavenger and cart. The ordinance was not rigidly enforced.

All along Front Street and Railroad avenue, the two principal business streets, the stores are raised three or four feet above the level of the lots, and a walk or *porch* is made of oyster and cockle shells, rendered very firm like a concrete, and these walks are raised fully a foot or more above the lots, no provision being made whatever to carry off the water in the low back-yards of these lots. Nor could I find any lateral or back trenches or drains to effect this all-important drainage. Moreover, as a means of entrance to the stores this elevated, long box steps, several in number, and sometimes including two or more stores together, are constructed very closely, without any openings whatever for ventilation, thus rendering the drying of the yards all the more difficult. It would be difficult to conceive of a greater disregard of the plainest laws of sanitation presented in these quarters of the city chiefly.

While this lamentable neglect of cleanliness presented itself in the back yards, a similar want of attention to the cleanliness of the water-closets, to the removal of their contents, and to their disinfection was quite general.

From the above general statement it will be seen that the sanitary condition of Morgan City could hardly be worse, and calls for immediate steps to be taken for its improvement to avert the outbreak of yellow fever, the danger of which may be apprehended when we bear in mind that the first case of this disease in 1875 did not occur in Morgan City until the 18th of August.

It affords me pleasure to report that I found the depot and wharves of the Morgan Railroad in an admirable state of cleanliness, the super-

intendent, Mr. R. Natati, using every care in the good order and cleanliness of all the buildings, wharves, &c., under his charge. To this gentleman I am indebted for courtesies and kindnesses, and for the offer of the use of a steam-trag to facilitate inspections when I might need it. I take pleasure, also, in reporting the large steam laundry of Mr. St. Clair, mayor of the city, as presenting every feature of careful construction in regard to proper ventilation, neatness, and drainage throughout the premises, and in the provision of wooden gutters within and in front of the laundry to effectually drain it.

Railroad depot. The remarkable fact is noted that during the epidemic of last year none of the officers and employes about the depot and wharves were attacked with the fever.

On the 7th instant I requested that the board of health and city council should meet in joint conference on the affairs of the city and afford me the opportunity to make such suggestions as I deemed necessary to better the sanitary state of the city. This was accordingly done, and after the passage of certain resolutions, presented at my instance by the board of health, on interments, I was requested to address the conference. First reading my letters of instructions, I repeated to them the substance of what is reported above, touching the defective sanitary conditions of the city, to report on which it had been made my duty by those instructions, and to offer such suggestions for their improvement with the least danger to public health in effecting them.

1. In effecting proper and as thorough drainage of the streets as was immediately practicable.

(a) By removing the weeds, grass, and all obstructions from the main and lateral ditches without disturbing the soil.

(b) To disinfect these whenever found to be foul and offensive.

2. To open small trenches in all the back yards where pools of water stood.

(a) In effecting this, however, to disinfect any stagnant pools before cutting the trenches.

(b) To disinfect the ditches after the drainage into them of any offensive accumulations, and the surface of the pools after the drainage.

3. To enforce the city ordinances prohibiting the throwing of garbage into the streets.

(a) That all garbage shall be placed in suitable vessels to be removed at an early hour of the morning and dumped into the bay.

4. Disinfection of all water-closets with the zinc-vapor method.

(a) To avoid removing the contents of the privies during the hot months, and rely upon the frequent application of the disinfectant instead.

(b) When a sink was too full to admit of its use during the remainder of the summer, to disinfect and fill up with dry earth and prepare another for temporary use.

These measures were urged as of paramount necessity at this time in view of the state of the city, if they would escape the sad experience of Memphis and, to a very limited extent, of New Orleans, and that the initial steps should be at once taken.

These remarks and suggestions were approved in a resolution of thanks by the conference. While heartily approving all that was proposed and desiring to carry them into operation immediately, the mayor represented that the treasury of the city was empty and the council found themselves unable to obtain the funds necessary for the accomplishment of the same. The budget was shown to me, by which I found that \$2,000 of back taxes was due, which the mayor informed me could not be realized owing to the impoverishment produced by the epidemic of last year. The assessment for the present year is now being made and will amount to about the same sum, \$3,000, which, however, will not be collectible until next year. Fines and licenses for exhibitions are about sufficient to defray the expenses of the police.

The board of health, of which Dr. W. H. Gray is the president, has only been organized for two months, and have not adopted or set forth any laws. They are without funds. I was verbally instructed by Dr. Bemiss to say to the board of health that upon an application for assistance, if they required it, accompanied by a specification of the amount and the purposes it would be applied to, he thought the National Board of Health, on my approval of the same, would make an appropriation in their behalf. As a preliminary measure I advised the board to adopt the rules and regulations of the National Board of Health, which they did, as will be seen by the accompanying documents made part of this report and embracing applications for relief. They also furnished me, by request, a tabular statement of the deaths in Morgan City from the 1st of July to date, also part of this report. Before passing to other matters I beg leave to recommend the approval of their application, subject, however, to a reduction of \$800, making the amount \$1,000. In view of the urgent necessity for immediate attention to the proper sanitation of the city and the impecunious state of the city treasury, it seems to me a measure of prudence to bestow the above sum to enable the authorities to carry into immediate effect the requisite sanitary measures.

Relative to the health of Morgan City all the physicians informed me that there was more sickness among children than usual, chiefly of malarial fever.

Dr. Bemiss having requested me to inquire particularly into the facts concerning the case of Mrs. Anner's child who was brought to New Orleans sick with fever from Morgan City, and who died with yellow fever on the sixth day, having had black vomit and suppres-

sion of urine, I called at the residence of Mrs. Pierre Lahitte, who keeps a confectionery store and with whom Mrs. Anvret lived in the capacity of a cook twenty-five days before her departure for New Orleans. I obtained the following statement from Mrs. Lahitte: Mrs. Anvret's child, a son, was ailing with a derangement of the bowels for a week before he fell sick with fever. This took place on Saturday, July 26. The next day he had no fever, as Mrs. Lahitte thinks, but complained a good deal, and she advised the mother to send for a physician, which she refused to do. On Saturday, 27th, Mrs. Anvret left on the train at 12:30 p. m. for New Orleans, where she arrived at 4 p. m. The child died on Thursday, the sixth day of the fever.

The premises of Mrs. Lahitte were occupied by Mr. Touchard during 1878, and he was ill there with yellow fever, attended by Dr. W. H. Carson, and recovered. They were at the time of his recovery thoroughly fumigated with sulphur and all the premises disinfected and cleansed.

For a month before the occupancy of the house it was closed, and Mrs. Lahitte, before taking possession, on the 1st of July had it again fumigated, painted, repapered, and whitewashed. None of the effects of Mr. Touchard were left on the premises.

The water-closet was emptied and disinfected by Mr. Touchard, and disinfected again by Mrs. Lahitte when she occupied the house. I found all the out-buildings whitewashed and clean, and the yards elevated and dry, except at the lower or western end, where there existed a sluggish, filthy drain, leading from the back part of the lot, the flow from which into the street ditches was prevented by a quantity of oyster-shells placed just within the front fence to raise that part of the yard.

So far as these premises offer a solution of the attack of Mrs. Anvret's child, it must be found in the stagnant filthy pool above described. Mr. Fontaine, with whom Mrs. Anvret lived as a cook for five months before entering the service of Mrs. Pierre Lahitte, informed me that she was an untidy woman, for which account he dismissed her from his service. That the child was much petted and indulged by the mother and frequently complaining.

I may here state that the dwelling of Mrs. Lahitte is situated in the quarter of Morgan City south of the railroad embankment, and in the lower part of the city, where the first case of yellow fever originated in 1878 in the person of A. C. Hanson, a sailor, at the boarding-house of Mrs. Kavanagh, two blocks removed from Mrs. Lahitte's. This quarter of the city is lower than others of it, and suffered most during the epidemic.

Accompanying this report is one made to me at my request by Dr. W. H. Carson, quarantine physician for the Atchafalaya station, to which I beg leave to call your consideration. On the 7th instant I visited the quarantine station with Dr. Carson. From my personal examination of the locality, I am able to indorse all the facts set forth by Dr. Carson in his report. I cannot refrain from urging upon the National Board of Health the necessity for suitable provision for the efficiency of this quarantine station. Dr. Carson informs me that he has laid the facts of the case before the State board of health. The board, he represents, is unable for the want of funds to put up suitable buildings. Should the emergencies arise as mentioned by Dr. Carson I cannot see in what way they can be properly met by the quarantine officer, who will be held responsible for deficiencies in the outfit of the station beyond his power to supply.

If the government, as was contemplated and I believe promised, has made over certain hulks, unfit for sea service, for purposes of quarantine, there can be no more urgent case presented for the supply of such a hulk than this one of the Atchafalaya station.

On the 8th instant I visited the convict camp, half a mile back of the village of Berwick, on the west bank of the bay, where I had been told much sickness prevailed. The superintendent, Captain Husted, very politely showed me over the whole camp, permitting me to inspect the sick, their dormitory, cooking arrangements, and the rations issued to the convicts. I was gratified that the reports of sickness in the camp were exaggerated. Out of a force of 108 convicts, 15 of whom are white, there were 20 in the infirmary. Of these not more than 5 or 10 could be said to be sick. I found one case of ague and fever in a colored convict, one of anasarca, and several laid up with cuts on the feet inflicted with the spade while at work, and others with slight swelling of the legs caused by working in the wet trenches. Considering the number of the laborers, their exposure to so elevated a heat, and the prevalence of the late rains to which they are unavoidably more or less exposed, the health of the force is remarkably good.

Extract from a report of the board of sanitary commissioners of Savannah, Ga., on certain statements in reference to the sanitary condition of that city by Sanitary Inspector A. N. Bell, M. D.:

The assumption of Dr. Bell that "the people do not realize their danger and do not believe that they can have yellow fever unless it is brought to them from somewhere else, and in the seaport towns they insist that the disease never reaches them except by ship," is without foundation, and is a misrepresentation of the views and opinions entertained by this board, as well as the opinions of a large number of practicing physicians in this city. It is, furthermore, a reflection upon the efforts of this board, as well as the city council,

who have not confined themselves to any theories in their legislation upon sanitary measures, but have always exercised a rigid system of quarantine, combined with as vigorous local sanitation as the financial condition of the city would permit and their judgment indicated as the most advisable for the protection of the public health. The statement in reference to the filthy condition of Bilbo Canal, an open canal a quarter of a mile distant from the eastern side of the city, and the principal outlet of the sewage of the city, in which canal the tide ebbs and flows twice in the twenty-four hours, is also without foundation, and we challenge Dr. Bell or any one else to prove the origin of a single case of yellow fever occurring on board a ship which has left this port which was due to the impurity of the river water taken from a point adjacent thereto. On the contrary, our merchant marine will bear testimony to a preference for the Savannah River water over any that can be supplied to them at other ports generally.

The board of sanitary commissioners report that Dr. Bell, sanitary inspector of the National Board of Health for this district, during his recent visit to this city, expressed himself very favorably concerning the quarantine system of the port, and was perfectly satisfied with its efficiency. The sanitary suggestions which were made by him were verbal, and were limited to an improvement in the privy arrangements and the procuring of a purer water supply, matters which have engaged the attention of the municipal authorities for some years past, are well known to our entire community, and are still under consideration.

SANITARY CONDITION OF MOBILE.—Dr. T. S. Seales, health officer of Mobile, sends a reply to the report of Sanitary Inspector J. D. Palmer, published in the last number of the BULLETIN. The following extracts give the material points in said reply. With reference to the charge of neglect of privy-vaults, &c., made by Dr. Palmer with authority of the chief of police, Dr. Seales says:

In the first place, Captain Williamson denies having given any such information, and moreover Captain Williamson has only been in office since about the middle of March last, while I have filled the position of health officer for the city of Mobile now more than four years, and as such matters come under my immediate jurisdiction I should think myself more competent to give information on such subject; but, very strangely to state, Dr. Palmer, during his entire stay in Mobile, never propounded one solitary question to me with the view of obtaining information in relation to the sanitary condition of this city.

On the above subject the facts in the premises are as follows: We have one annual house-to-house inspection by means of which the entire city is placed in the best possible sanitary condition; we keep constantly employed one sanitary policeman—now have three—whose duty it is to take cognizance of all nuisances detrimental to health, and there is always at this office a book known as the "book of complaints" in which it is the duty of all policemen to enter any nuisances supposed to affect health, and which book is also open to the public of this city for such entries, and it the same had been examined by Dr. Palmer I believe that the report, extracts from which you furnish us, would never have been forwarded by him.

"In consequence of the porousness of the soil and the large amount of rainfall the pits are really all of them up to the level of the ground." In relation to the information here given by your inspector, I would venture the assertion, without fear of contradiction by any resident of this city, that at the time Dr. Palmer wrote this portion of his report not fifty vaults out of something over three thousand could have been found in any such condition.

It is undoubtedly true that in some special portions of the city after heavy rains vaults become full or nearly so, but the very porosity of the soil mentioned by Dr. Palmer affords a very speedy subsoil drainage.

We do not think the doctor's assertion that wells from which water is used for drinking purposes "are not generally more than ten feet and oftentimes only four feet deep" can be sustained by the labors of an unprejudiced inspector, nor do we think that our mortuary reports, published from time to time, indicate that diseases generally attributed to such a cause have been very rare in our city.

When he "approached the authorities upon the subject, they have said that yellow fever will come whether you are clean or not," but he did not inform you who the "authorities" alluded to were, whether a private policeman or one of the night scavengers. Of one thing, however, I can assure you, that no such answer was ever given by myself.

In relation to your deductions from his report as to putrefying animal excreta, or any manner of filth rendering a city in an unsanitary condition, I would state that we of Mobile feel that we are fully awake, as our record in the past in striving to have our city most thoroughly policed will testify, and I will remember twice during the summer of last season recommending to the Hon. G. C. Bulfinch, then mayor, the importance of issuing sanitary circulars urging the great necessity for keeping the city in as perfect a condition of cleanliness as possible.

The condition of our city at the present time in a sanitary point of view, Dr. Palmer's report to the contrary notwithstanding, is cer-

NATIONAL BOARD OF HEALTH BULLETIN.

taining very little, if any, worse than last year, when, though yellow fever was with us early in August, and was epidemic in every town almost between us and the city of New Orleans, and all along the line

of the Jackson road, in a population of about 40,000 people we only had, all told, 293 cases—less than Meridian, with possibly less than one-fourth our population.

Report of mortality in cities of the United States for the week ending August 16, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

Places.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Dysentery and cramp.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Stun-stroke.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Baltimore, Md.	400,000	70	141	18.4	2	20	30	5	1		9	1		1	5			2		
Boston, Mass.	355,000	94	152	24.9			55	1			3		1		1	1		1		
Brooklyn, N. Y.	264,448	118	216	19.9		26	55	11	1		3	2	1		1			1		
Cambridge, Mass.	16,500	2	5	15.7				1												
Charleston, S. C.	50,000	12	22	22.9				1												
Chicago, Ill.	57,000	13	25	19.9		4		1												
Chattanooga, Tenn.	12,000	6	7	30.4		3	4				3	1								
Cincinnati, Ohio	537,624	1.0	224	21.6	3	16	63	7			3	3			1	9		2	2	
Cleveland, Ohio	220,000	60	106	19.7	2	7	11	1			1				2	2		1	3	
Dayton, Ohio	175,000	38	59	16.7		3	17	3										1		
District of Columbia	29,000	5	11	14.7																
Erie, Pa.	160,000	48	89	29.0	1	14	15				7				1			3	1	
Hudson County, New Jersey	30,000	10	17	33														3		
Jacksonville, Fla.	199,000	40	53	19.1		11	13	1			3	3			1			3		
Lawrence, Mass.	10,000	1	2	10.4														2	1	
Louisville, Ky.	40,000	13	26	29.6		4	6				3									1
Louisville, Mo.	175,000	21	44	13.1		2	8	1			2									
Lowell, Mass.	52,000	13	17	15.0		1	6											1		
Minneapolis, Minn.	52,000	15	22	22.0		2	8											2		
Mobile, Ala.	40,000	8	16	20.8		4												1		
Nashville, Tenn.	37,000	5	13	25.0		1	1								2					
New Bedford, Mass.	25,000	7	13	25.0																
Newburgh, N. Y.	17,500	3	10	29.6		2	4													
Newburyport, Mass.	13,000	3	8	30.3		2	4													
New Orleans, La.	210,000	20	16	25.8		6	135	10			25	12	8	4	9	2		12	10	
New York, N. Y.	1,095,563	265	503	25.9	2	64	135	10			25	12	8	4	9	2		12	10	
Philadelphia, Pa.	24,000	7	15	32.6		1	4	1										5	6	
Pittsburgh, Pa.	901,340	184	348	29.1	1	42												1	2	
Pittsburgh, Pa.	145,000	37	67	24.4		11	16	9												
Providence, R. I.	101,500	18	35	18.0		5	9	1												
Reading, Pa.	40,100	11	18	23.3		2	4											2		
Richmond, Va.	80,000	15	28	18.2		5	5	2			3				1					
Savannah, Ga.	32,636	13	28	26.5		5	5	2							1	3		12	3	
Saint Louis, Mo.	500,000	25	151	17.8		22	36	3	1											
Saint Paul, Minn.	50,000	7	13	26.0		2	1													
Utica, N. Y.	35,000	5	11	16.4		1	3								1				3	
Wheeling, W. Va.	35,000	6	17	25.5		3	3				1									
Wilmington, Del.	41,043	1	11	13.2		2						1								
Yonkers, N. Y.	19,000	2	4	11.0		1	1													
Totals	6,582,520	1,138	2,662	20.9	14	293	561	60	9		73	37	15	9	54	2		66	36	1

CITIES IN WHICH BURIAL PERMITS ARE NOT KNOWN TO BE REQUIRED.

Albany, Pa.	75,000	20	31	21.5		4	10	1			2				1			1	1	
Albany, Pa.	39,000	12	16	21.4	2		7								2			2	2	
Augusta, Ga.	26,574	7	17	32.9					1		1									
Barb, Me.	10,000	1	5	26.1		2														
Battle Creek, Mich.	7,500	2	3	20.8		1														
Birmingham, Ala.	18,000	2	7	29.3		2	1	2												
Brooklyn, Mass.	12,000	4	4	17.3		3			1										1	
Burlington, Iowa	30,000	4	4	26.1			1													
Columbus, Ga.	10,000	6	7	25.5									1						2	
Columbus, Ga.	14,000	3	5	18.7		1	2													
Dover, N. H.	30,000	1	4				1		1											
Dubuque, Iowa	37,000	2	5	8.7			1								1			5	1	
Evansville, Ind.	37,000	11	11	19.7	1	2	1					2								
Houston, Tex.	30,000	2	5	8.7				1							1				1	
Indianapolis, Ind.	97,000	13	21	11.3		2	10													
Kansas City, Mo.	61,000	1	23	7.7			1		1						1					
Kearney, Neb.	15,000	1	6	29.5		1														
Kearney, Neb.	15,000	3	4	14.0																
Madison, Ind.	12,000	4	4	15.3			1													
Marblehead, Mass.	7,000	1	2	19.9					1											
Milford, Mass.	10,000	4	4	29.8			2													
Milwaukee, Wis.	121,000	40	51	33.5		2	17	5												
Monmouth, Ill.	6,000	1	3	26.0	1	2													1	
New Haven, Conn.	60,000	11	29	25.2		2	2													
Pensacola, Fla.	20,000	1	2	10.0											1					
Poughkeepsie, N. Y.	20,000	3	6	15.6			1													
Quincy, Ill.	35,000	1	7	10.4			3	1												
Rochester, N. Y.	90,000	10	30	15.2			1													
Savannah, Ga.	5,000	2	3	31.2										1						
Shelbyville, Tenn.	2,000	3	3	78.0			3													
Sing Sing, N. Y.	5,000	1	5	32.0			2					2							1	
Waterbury, Conn.	16,000	5	7	22.8																
Youngstown, Ohio.	17,000	2	2	6.1							1									
Totals	915,574	167	335	18.2	5	40	82	12	2	1	11	8	2		5			11	11	

* Chattanooga has 8,000 white and 1,000 colored population. Deaths 5 white, 2 colored. Rate per 1,000 white, 32.6; colored, 26.0. District of Columbia has 106,000 white, 34,000 colored; deaths 16 white, 15 colored. Rate per 1,000 white, 29.2; colored, 46.3. Charleston, S. C., has 25,000 white, 32,000 colored; deaths 6 white, 19 colored. Rate per 1,000 white, 22.5; colored, 31.0. Nashville has 17,500 white, 9,500 colored; deaths 3 white, 10 colored. Rate per 1,000 white, 8.9; colored, 51.8. New Orleans has 175,000 white, 50,000 colored; deaths 36 white, 32 colored. Rate per 1,000 white, 12.0; colored, 30.3. Norfolk has 14,085 white, 9,913 colored; deaths 8 white, 7 colored. Rate per 1,000 white, 27.6; colored, 26.8. Richmond, Va., has 86,000 white, 34,000 colored; deaths 15 white, 13 colored. Rate per 1,000 white, 17.0; colored, 19.9. Savannah has 15,495 white, 15,163 colored; deaths 4 white, 19 colored. Rate per 1,000 white, 11.9; colored, 65.3. A sailor died at quarantine, Baltimore, on the 12th August, of yellow fever. † Augusta has 15,246 white population, 11,628 colored; deaths 11 white, 6 colored. Rate per 1,000 white, 37.6; colored, 26.9. § New Haven and Milwaukee have notified the National Board of Health that burial permits are required.

Report of mortality in cities of Great Britain and Ireland for the week ending July 26, 1879.

Places.	Population.	Deaths under 1 year.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrhœal diseases.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small pox.	Stroke.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Aberdeen	101,635	5	32	16.1				1		3								1	
Belfast	182,682	14	81	23.2			5					1							
Birmingham	328,881	28	147	16.6			6												
Braintree	191,046	12	68	18.6															
Brighton	105,608	13	42	20.8								2							
Bristol	200,947	11	57	14.2			1					1							
Cardiff	10,065	7	30	17.0															
Dublin	314,696	22	150	21.9								2			4	1			
Dundee	150,993	20	55	19.0			2	3		9								1	3
Edinburgh	226,075	17	71	16.3			3	4		10		1		1					
Galway	19,692	2	5	15.2			1												
Glasgow	578,156	46	197	17.7								3		1					
Greenock	76,955	5	21	11.2			1			2									
Hull	146,347	11	43	15.3				1											
Leeds	311,860	31	115	19.2			3					1		1					
Leicester	145,622	15	47	15.5								1		1					
Leith	57,037	3	18	16.4						5									
Limerick	41,260	3	16	18.8			2					2		1					
Liverpool	538,338	35	192	15.6			3	1				1		1					
London	3,630,868	208	1,426	17.1			25	7				49		28	6	15	34		
Londonderry	30,881		6	10.1															
Manchester	363,819	30	114	20.8			1	1				1		2					
Newcastle-on-Tyne	146,948	12	52	18.5			2							1					
Norwich	85,222	5	20	12.2				1											
Nottingham	169,296	18	46	14.2				5						3					
Oldham	111,318	10	44	20.6								2		2					
Paisley	48,923	3	17	15.1			3							2					
Perth	18,623	1	12	15.4			1												
Plymouth	74,293	6	24	19.7			1												
Portsmouth	111,821	6	26	10.3															
Salford	177,449	9	70	17.3			3												
Sheffield	207,118	21	100	17.6			8	5				3		10					
Sligo	17,285		3	9.0															
Sunderland	114,575	15	47	21.4			2												
Waterford	30,626	1	6	10.2															
Wolverhampton	55,160	6	28	19.2								1		1					
Totals	9,381,735	714	3,260	17.8			94	28		62		85		119	7		64	85	

Report of mortality in German cities for the week ending July 19, 1879.

Berlin	1,062,500	566	792	34.4		57	89	18		27		4		6			6	7
Bremen	106,000	13	37	18.2														
Breslau	270,000	82	150	30.6		15	22	2		2			1				5	2
Cologne	110,101	37	66	21.5		10		1		6							2	7
Danzig	107,216	28	51	28.6		3	1	1		4				1	1		1	1
Dresden	215,110	45	79	19.1		1							1					
Frankfort	126,000	23	44	18.2		9	3			1							2	
Hamburg	383,057	152	162	22.0		29	6	5		11		9	1	3				3
Hannover	124,000	25	47	19.9		7	1			1				1				
Königsberg	100,718	14	74	28.2		4	1	3										3
Leipzig	145,719	28	67	23.9		10	3	2		3								1
Munich	210,000	84	117	33.2		14	33	1		10		1	1	3			6	2
Nuremberg	102,793	19	38	19.2		8	3	1		3								1
Strasbourg	101,150	34	59	29.2		12	14	1						1				2
Stuttgart	105,275	32	52	25.6		6	1	2		3				1				4
Totals	3,349,522	4,069	1,759	27.8		203	179	48		95		16	5	17	1		20	37

REPORTS from the following cities were received too late for insertion in the mortality table for the week ending August 9:

Augusta, Ga., population 26,771; reports 9 deaths, 3 under 5 years; population, 15,216 white, 11,625 colored; deaths 7, 7 white, 2 colored; rate per 1,000 white 23.9, colored 8.9. Austin, Texas, 15,500; deaths 3 under 5 years; from diarrhœal diseases. Biloxi, Miss., 3,000; no deaths. Brockton, Mass., 12,000; 5 deaths; 1 consumption, 1 diarrhœa, 1 diphtheria. Claiborne, Miss.; no deaths; population not given. Columbus, Ga., 10,000; 5 deaths; 2 under 5 years, of whooping cough. Columbus, Miss., 5,200; no deaths. Dixon, Cal., 1,200; no deaths. Fayette, Miss., 200; no deaths. Helena, Mont., 3,500; no deaths. Hernando, Miss., 1,200; no deaths. Hudson, N. Y., 8,781; no deaths. Indianapolis, Ind.; no deaths. Jackson, Miss., 5,000; 1 death from old age. Kansas City, Mo., 61,000; 29 deaths, 19 under 5 years; 12 diarrhœa, 15 malarial fevers, 1 consumption. Lexington, Mo., 4,000; 1 death; no cause given. Little Rock, Ark., 20,000; 6 deaths, 3 under 5 years; cerebro-spinal fever 1, consumption 1, diarrhœa 2, lung diseases 1. Los Angeles, Cal., 11,000; 4 deaths, 2 under 5 years; consumption 1, diarrhœa 1, Louisiana, Mo., 5,000; 2 deaths under 5 years; no cause given. Mayersville, Miss., 1,500; 2 deaths, 1 under 5 years; no cause given. Memphis, Tenn., 16,110; 12 deaths; diarrhœa 1, malarial fever 2, yellow fever 2, under 5 years 5. Morton, Miss., 200; no deaths. New Orleans, La., 210,000; reports 84 deaths,

of which 25 under 5 years; consumption 10, diarrhœa 2, diphtheria 1, pneumonia 1, malarial fevers 7, of the 74 deaths, there were 51 white and 23 colored; population, 155,000 white, 55,000 colored; annual death rate per 1,000, white 18.2, colored 21.6. Sacramento, Cal., 25,000; cerebro-spinal fever 1, consumption 1, pneumonia 2, malarial fever 1, puerperal fever 1, whooping cough 1; total 8, 4 under 5 years. Salt Lake City, 25,000; 13 deaths, 9 under 5 years; diarrhœa 6, diphtheria 3, pneumonia 1, puerperal fever 1. San Antonio, Tex., 22,500; 5 deaths; diarrhœa 1, pneumonia 1, whooping cough 2. San Francisco, Cal., 200,000; reports 50 deaths, of which 33 under 5 years; consumption 7, diarrhœa 6, diphtheria 1, lung diseases 5, measles 1, puerperal diseases 2, typhoid fever 5. Sebastia, Miss., 1,500; 1 death from puerperal fever. Shreveport, La., 7,000; 1 death, 2 under 5 years; diarrhœa 1. Tampa, Fla., 1,000; no deaths. Winona, Minn., 11,780; 3 deaths, under 5 years, from diarrhœa.

THE following places report no deaths for the week ending August 16:

Bebot, Wis., population 5,000; Benton County, Miss., 11,000; Bridgewater, Mass., 3,200; Brunswick, Cal., 3,000; Hudson, N. Y., 8,781; Mount Pleasant, Iowa, 5,000; Niles, Mich., 1,630; Oxford, Miss., 2,000; Quarantine Hospital, N. V.; no yellow fever; Starkville, Miss., 1,163.

The following places report not more than *two deaths* from any of the diseases named in the table, for the week ending August 16:

Ann Arbor, Mich., population 7,520; 2 deaths; 1 consumption. Austin, Tex., 15,500; 1 erysipelas. Belfast, Me., 5,278; 1 scarlet fever. Calais, Me., 7,000; 1 consumption. Edgartown, Mass., 1,700; 1 marasmus, 1 abscess. Fernandina, Fla., 2,500; 1 typhoid, 1 malarial fever. Franklin, Tenn., 1,800; 1 diarrhea. Franklin, Ind., 4,000; 1 Bright's disease. Gallipolis, Ohio, 5,500; 1 pneumonia. Louisiana, Mo., 5,000; 1 diarrhea. Moline, Ill., 7,000; 1 typhoid fever. Nantucket, Mass., 3,000; 1 old age. Painesville, Ohio, 5,000; 1 old age. Plymouth, Mass., 6,331; 1 consumption, 1 cancer. Port Gibson, Miss., 1,000; 1 convulsions—first death in six weeks. Port Huron, Mich., 8,200; 1 diarrhea, 3 total, 2 under 5 years. Richmond, Ind.; 1 enteritis. Ripley, Miss., 1,000; 1 pneumonia, colored infant. Sandusky, Ohio, 18,000; 1 marasmus, 1 heart disease, 1 hernia. Tuscaloosa, Ala., 1,000; 1 malarial fever, 1 old age. Vicksburg, Miss., 15,000; 1 typhoid fever, 1 premature birth. Wesson, Miss., 2,000; 1 consumption. Winona, Minn., 11,786; 1 infant, diarrhea.

The following dispatches from Memphis, Tenn., continue the reports from the last number of the BULLETIN, as to the progress of the yellow fever in that city; the disease has not yet spread to other places:

August 16, 14 cases; 5 deaths since last report. August 17, 21 cases; 7 deaths since last report. Deaths for the week, 46 from yellow fever, 22 other diseases. Total deaths to date from yellow fever, 129; total number of cases, 534. August 18, 25 cases; 4 deaths since last report. August 19, 13 cases; 6 deaths since last report. August 20, 31 cases, 19 white, 12 colored; 4 deaths since last report, all white. August 21, 27 cases; 5 deaths since last report. August 22, 26 cases, 7 white, 19 colored; 6 deaths, 1 white, 2 colored.

NEW ORLEANS, August 21.

Two more cases of yellow fever reported; contracted near first cases.

HERRICK,
Secretary Board of Health.

The following letter and circular were sent to the National Board of Health, August 14, 1879:

NAVY DEPARTMENT,
Washington, D. C., August 14, 1879.

SIR: Inclosed please find copy of circular this day issued to the medical officers of the Navy, with the hope that by means of it much information useful to your Board may be obtained.

Very respectfully,

R. W. THOMPSON,
Secretary of the Navy.

DR. J. L. CABELL,
President National Board of Health.

CIRCULAR.

NAVY DEPARTMENT,
Washington City, August 14, 1879.

By section 10 of the "Instructions for Medical Officers," the senior medical officer of every vessel and station is required to make a sanitary report to the Bureau of Medicine and Surgery on the 1st of January, or at the end of each cruise, if less than a year. Under the heads hygiene, climatology, and medical topography of any station or place visited, it is designed that these reports shall contain all such information as can be acquired touching those subjects, together with that respecting statistics of disease and its causes, establishments for the cure of the sick, charitable institutions, medical colleges, or other matters of professional interest.

The attention of all medical officers is especially called to those requirements, and the commanding officers of squadrons and stations are expected to see that they are strictly complied with.

During the prevalence of the yellow fever and other contagious diseases from ports of the West Indies, Gulf of Mexico, and South America will be forwarded with all possible promptitude.

In all the last-named ports the surgeons of fleets and of the several vessels are required to obtain the most complete and reliable information of the actual condition of health at such place visited, to investigate the causes of prevailing diseases, and to consult with the health officers of the ports and with consular and other authorities as to endemic and epidemic diseases—particularly yellow fever and cholera.

Besides the yearly reports required by the above-mentioned section 10 of the "Instructions," medical officers will forward the results of their observations upon the subjects hereon indicated, without delay. Reports from vessels will be transmitted to the surgeon

of the fleet, to be forwarded to the department through the prescribed channels, and those from stations to the Bureau of Medicine and Surgery, so that the department may be kept constantly informed of the origin and progress of any disease that may affect the health of the fleets or may be liable to be introduced by vessels of commerce into any of the ports of the United States.

When desired to do so, medical officers will assist the consular authorities of the United States in examining into the condition of American vessels or those of other nationalities bound for ports of the United States, and will prepare such certificates of the healthy or unsound condition of vessels, their crews and cargoes, as may enable such authorities to comply with the instructions issued by the Department of State on this subject and dated June 21, 1879.

Commanding officers will afford all necessary facilities to enable these investigations and examinations to be made as thoroughly as possible, and will forward by their personal interest and attention the acquisition of knowledge upon all the foregoing points. It is expected that all these duties will be promptly and energetically performed, as they are, in every sense, important to the Navy and the whole country. The results will be turned over to the National Board of Health, for their guidance in the important matters connected to them by law.

R. W. THOMPSON,
Secretary of the Navy.

Report of sick of the United States naval forces on the Pacific station for the first quarter of 1879.

Diseases.	Remaining.	Admitted.	Discharged.	Transferred.	Died.	Remaining.
Miasmatic	3	41	37	2	1	3
Ethnetic	3	32	17	4	.....	10
Dietic	.....	7	7	.....	.....	.....
Diathetic	4	17	18	1	.....	2
Developmental	.....	.....	.....	.....	.....	.....
Tubercular	.....	.....	.....	.....	.....	.....
Parasitic	.....	.....	.....	.....	.....	.....
Of the nervous system	22	19	10	10	.....	1
Of the eye	3	4	5	1	.....	.....
Of the ear	1	.....	1	.....	.....	.....
Of the teeth	.....	.....	.....	.....	.....	.....
Of the circulatory system	.....	15	5	.....	.....	.....
Of the respiratory system	1	15	3	.....	.....	7
Of the digestive system	1	51	49	.....	.....	6
Of the urinary and genital system	1	11	14	1	.....	.....
Of the locomotive system	1	1	32	.....	.....	.....
Of the integumentary system	3	40	39	1	.....	3
Non-malignant tumors and cysts	.....	.....	.....	.....	.....	.....
Wounds, injuries, and accidents	5	50	47	.....	3	5
Total	29	250	241	27	4	37

SUMMARY.

Average number of persons in squadron	1,682
Total sick days	3,920
Daily average number sick	3688
Annual death rate per 1,000	14.8

The vessels on the station during the quarter were the *Pennacola*, *Lackawanna*, *Adams*, and *Alaska*.

MISCELLANEOUS.

August 13, 1879, Dr. John H. Ranch sends a "house to house" report of inspection of the city of Metropolis, Ill.

ADOPTED THE RULES, &c.—In addition to the places already noted, the following cities have adopted the rules and regulations recommended by the National Board of Health: Corpus Christi, Texas, August 2; New York City, August 6; Indianola, Texas, August 8; Saint Mary's Ga., August 9.

Dr. A. N. Bell, sanitary inspector, sends a map of Win-yah Bay and Georgetown Harbor, S. C., also an appendix to his report on Savannah quarantine (printed in No. 5 of the BULLETIN), and an extract from the report of the health officer at Charleston, S. C., for 1878. Tabular statistics of quarantine at Charleston are given for the years 1875, 1876, 1877, and 1878.

The mortuary report from Memphis, Tenn., for the week ending August 2 was not received till August 18. The deaths from yellow fever (24) are given in the table—No. 6 of the BULLETIN. Deaths from all causes 43, of which 10 under 5 years, consumption 5, diarrhea, 1. Population stated at 16,000, giving an annual death-rate of 133.8 per 1,000.

Dr. Harris, chairman of the Board of Health of Darien, Ga., under date of August 12, states that the local board at its last meeting adopted the rules and regulations recommended by the National Board, or at least so much of them as would be required to maintain a strict quarantine and good sanitation. The town is exempt from fevers of all kinds, and but one death is reported in the last month. Efforts are being made to secure efficient drainage.

Dr. Robert Lebby, quarantine officer at Charleston, S. C., forwards reports for the week ending August 9.

The only arrival during the week was the English bark *Empress*, Hancock master, 25 days from Pernambuco, in ballast. Arrived August 8, with clean bill of health and the crew of 10 men free from disease. Bilge-water bad, and the sanitary condition of the vessel not good; quarantined for 15 days.

Two vessels remained in quarantine at date of last report. The German bark *Die Heimath*, from Acarahn, Brazil; crew healthy, but sanitary condition not good. Quarantined for 15 days from July 21 to August 6.

British brig *Hiaratha*, from Barbadoes; crew of 15 men, healthy; bilge-water and sanitary condition bad. Detained 15 days, from July 24 to August 9.

Dr. John A. Ranch, secretary of the Sanitary Council of Mississippi Valley, writes from Cairo, Ill., August 16, sending copy of modification of local quarantine regulations. He thinks there is little danger of yellow fever spreading if the regulations of the National Board are carried out.

At the meeting at Cairo, August 16, the following resolution was adopted:

"Resolved, That all boats which have not come from any infected place, or that have not landed within sixty miles of any such place, be allowed to land at this port: *Provided*, That before any passengers shall leave said boat or any freight be discharged, there shall be exhibited to an officer of the city a clean bill of health from the inspection station at Island No. 1, as well as the usual certificate from each passenger now required under the rules of this board."

The Sanitary Council of Mississippi Valley is composed of representatives from the following boards of health: National Board; State boards of Michigan, Minnesota, Wisconsin, Illinois, Kentucky, Tennessee, Mississippi, Louisiana, Alabama, Texas; and the local boards of Vicksburg, Helena, Ark., Little Rock, Memphis, Saint Louis, Louisville, Evansville, Ind., Milwaukee, Cincinnati, Chicago, Galveston, and the New Orleans Auxiliary Sanitary Association.

NOTES FROM CONSULAR REPORTS.

Advices from Mr. A. G. Studer, United States consul at Singapore, state that up to July 2 no infectious or contagious diseases had prevailed in or near that port during this summer.

United States Consul A. C. Prindle sends mortuary reports for the months of May and June from Para, Brazil. The population is estimated at 40,000. In May there were 291 deaths: 11 from yellow fever, 10 from small-pox, and 7 from typhus fever. Annual death-rate, 60.3 per 1,000. In June there were 191 deaths: 3 from yellow fever, 11 from small-pox, and 4 from typhus fever. Annual death-rate, 58.2. Malarious fevers the prevailing disease.

W. H. Garfield, United States consul at Martinique, says, under date of July 26, that the health of the island is excellent, and no deaths are reported for the week ending that day, in a population estimated at 162,000.

From Bermuda, United States Consul Charles Muller reports but 6 deaths for the week ending August 5, in a population estimated at 15,293. No contagious diseases prevailing.

United States Consul Lewis Richmond sends report from Queenstown, Ireland, for week ending July 31. No epidemic or contagious disease. Six deaths in a population of 10,000.

Consul-General I. J. Smith forwards mortuary reports of Montreal, Canada, and states that arrangements have been made with the health officer, Dr. Larocque, to furnish regular weekly reports, with meteorological observations from McGill University. The reports sent are for the weeks ending August 2 and August 9. They show, respectively, 26 and 100 deaths, giving an average annual death-rate of 37.8 per 1,000, the population being estimated at 135,000. Small-pox and typhoid fever are the only diseases recorded.

From Vienna, United States Consul-General J. R. Weaver sends mortuary reports for the weeks ending July 19 and July 26; also a quarterly report for the second quarter of 1879. The latter shows 116 deaths from small-pox, 7 from typhus and 50 from typhoid fever, 43 from scarlet fever, and 142 from diphtheria. Total deaths from all causes, 6,053; population, 737,255; annual death-rate of 32.8 per 1,000.

United States Consul Hall, Havana, August 19, reports brig *Flourance*, for Pascagoula, and *Harry Viden*, for Philadelphia, having had yellow fever on board while at Havana.

The following dispatch from Port au Prince, dated July 17, sent by Consul-General John M. Langston, was forwarded by the honorable Secretary of State to the National Board of Health:

At present and for two weeks past we have not had a single case of yellow or of malarial fever in this city, and for over a month there have been no cases of either of these fevers on the shipping of this port. I have made diligent inquiry with regard to this matter, seeking those best informed, the leading physicians of the city and the captains and mates of the various vessels, sail and steam, in the harbor, and but very little general sickness is reported, and not a single case of either yellow or malignant fever. It really seems now that these fatal distempers have ceased, for the time being at least, and the community is relieved of their unwelcome presence.

It is impossible to give the exact number of those who have died in this city or in different parts of the republic of these disorders since the latter part of April last, when we had our first case in Port au Prince. In this country generally no statistics are kept, and deaths even from the fevers referred to constitute no exception. An approximate estimate gives seventy-five deaths among foreigners—American, English, French, German, Spanish, and Italian principally—in this city and Miragoane.

The shipping in the harbor of this port, with the exception of the German bark *Vedras*, has been entirely free from yellow fever and deaths therefrom. There were five cases of this disease upon this vessel, whose sick were removed to the hospital in this city, where they died about the 15th of May last. The number of those dying in the city seems to be about forty-eight, as follows: Thirty-five persons, French; seven German; two English; two American; and four of other nationalities.

In Miragoane there were twenty deaths, seven of Americans and thirteen of other nationalities. All these persons were seamen, and were taken sick upon the several vessels to which they belonged, whence they were taken ashore for treatment.

In proportion to the number of American vessels entering the port of Miragoane, it is claimed by one consular agent there that the number dying of yellow fever is very small, and this he attributes to the experience and good sense of the captains of our vessels.

At Port de Paix there were four deaths of seamen belonging to the American brig *Sabota*, of New York, all supposed to be Americans; and at St. Marc there were three deaths, two of American sailors belonging respectively to the American schooner *Frank A. Mayo* and the Haytian brig *Louis Prie*; and one of a Russian, also a sailor of the last-named vessel.

Our estimate gives a comparatively small number of deaths among American residents and sailors—only fifteen—and yet I believe it is substantially correct; for I have been extremely careful in my correspondence with our consular agents on this subject, and their reports, reaching down to the 1st of last month, are concise and reliable so far as the health of then several ports and the number

of deaths from yellow fever are concerned. Only this city, Miragoâne, Port de Paix, and St. Marc seem to have been visited severely this season by this disease, and in the two last places it seems not to have spread at all; and in Miragoâne it seems to have been confined, so far as the foreigners are concerned, to the shipping. From all of our consular agents except Mr. Thomas Dutton, of Aix Cayes, where the yellow fever seems to be just commencing, according to a dispatch received from him, dated the 12th instant (several sailors having just died of it there), reports have been received announcing that at present the health of their several agencies and dependencies is good, and that no yellow fever is prevailing at this time. Such is the condition certainly of this city now, and according to the statements of the physicians here the health of the people is unusually good. How long this condition will continue it is impossible to say. It may change in a day.

No. 832.]

UNITED STATES CONSULATE-GENERAL,
Havana, August 7, 1879.

SIR: I have the honor to acknowledge the receipt of your telegram of the 3d instant, as follows:

"Hall, consul, Havana. Report by telegram to National Board of Health departure of infected vessels, and instruct consular officers likewise."

In compliance with the foregoing instruction, I have to day addressed the National Board of Health the following telegram:

"Following vessels reported had yellow fever on board while here: Salisbury, Alfred, Barbadian, Sagabalan, and Edwige, for New York; since 21th ult., John Welsh and Truett for Delaware; Breakwater; Five Brothers, for Pascagoula; of Spanish vessels Justo and Salas, no information."

"HALL."

I also inclose a copy of a circular letter of this date which I have addressed to the consular officers at Matanzas, Cardenas, Sagua la Grande, Remedios, Nuevitas, Baracoa, Santiago de Cuba, and Cienfuegos, requesting the officers at the two last-named ports to instruct their respective agents in accordance therewith.

I beg leave to add that it being a difficult matter for any one not an expert in such matters to decide when a vessel is or is not infected, I have thought best to consult Dr. Chaillé, the president of the United States Sanitary Commission, now here, in drawing up the said circular letter.

It would possibly obviate a great deal of difficulty and many unpleasant questions with masters if all vessels coming from infected ports of the island were to be considered infected vessels.

The Havana Weekly Report, of which copies are forwarded every week to the department and to the Treasury, contains the names of all vessels which may have cleared at this port during the week, and at all the other ports of the island up to the latest accounts. It has occurred to me that this report may be of service to the National Board of Health and to the health officer at the port of New York, as it gives the names and ports of destination of all vessels leaving the island and the dates of their departure.

I have concluded, therefore, to forward a copy to each hereafter by the steamers leaving every Saturday.

I am, sir, very respectfully, your obedient servant,

HENRY C. HALL,
Consul-General.Hon. F. W. SEWARD,
Assistant Secretary of State, Washington.

(Inclosure No. 1, with dispatch No. 832.)

UNITED STATES CONSULATE-GENERAL,
Havana, August 7, 1879.

SIR: I have received from the Department of State the following telegram, dated the 5th instant:

"Report by telegram to National Board of Health departure of infected vessels, and instruct consular officers likewise."

In order to comply with the above instruction, I shall be obliged by your reporting to me the names of all vessels, of whatever nationality, which have cleared at your port during the past ten days, and which may hereafter clear for ports of the United States, giving the names of the ports to which they may be bound, and adding thereto the following particulars, as far as you may be able to obtain them, respecting each vessel:

1. All cases of yellow fever or deaths by that disease on board of vessels while on the voyage to your port.

2. All cases and deaths which have occurred or may occur in your port upon vessels bound for the United States, stating particularly whether the deaths occurred on board or on shore. In addition to the foregoing, any other information in regard to the prevalence of yellow fever and other infectious or contagious diseases, as well as regards the general public health of your port and vicinity, will be appreciated and communicated in your name to the National Board of Health.

Very respectfully, your obedient servant,

HENRY C. HALL.

GEORGE L. WASHINGTON, Esq.,
Vice-Consul of the United States, Matanzas.

Also to the consular officers of the United States at Cardenas,

Sagua la Grande, Remedios, Nuevitas, Baracoa, Santiago de Cuba, Trinidad, and Cienfuegos, and the last two instructed to forward copies to their agencies.

SANITARY INSPECTORS' REPORTS.

Dr. John H. Pope, sanitary inspector, under date of August 11, makes the following report of Corpus Christi, Rockport, and Fulton:

SIR: My report on the quarantine at the port of Corpus Christi was mailed at Indianola, 8th instant. I now have the honor to report as follows concerning my inspection of the sanitary condition of Corpus Christi:

The city was founded in 1832; was incorporated in 1852. The population in 1870 was between 1,500 and 2,000. In 1879 the scholastic census was taken, and at the same time actual count made of the entire population, with the following result: Total population, 3,601; whites, 1,774; Mexicans, 1,291; negroes, 533. Of these, 625 are between 6 and 14 years of age; and of the number of children, 116 are negroes and 51.5 are whites. The Mexican children are put down as white. The floating population, including sailors, numbers about 100.

The city is built partly on the bay beach, which part is known as the "Beach," and partly on a bluff or high prairie, which part is known as the "Bluff."

The "Beach" comprises about two-thirds of the inhabited portion of the city. Almost the entire business portion is here, and here also, and on the front line of the "Bluff," live the better classes of the population.

The elevation of the "Beach" is about five feet above ordinary tide. (The variation of the tide is about eighteen inches.) Its general slope is toward the bay; but there are occasional ridges or slight elevations running from the foot of the bluff to the shore and more or less perpendicular to the shore line. The beach is composed of shells and sand and some washings from the edge of the bluff. The ground is very porous, and the surface is soon dry after even hard rains. The houses in this part of the city, as a general thing, have their foundations very near the ground. In a great number of cases the storehouses, and in some cases the dwellings, have their floors on a level with the surface. Nearly all the houses (dwellings and stores) are wooden structures. A few are built of "concrete," composed of the shells and sand from the beach mixed with cement and molded into blocks.

The "Bluff" is from thirty-five to fifty feet above the tide. The line of separation between the "Beach" and the "Bluff" is shown by Broadway street. [Map to be forwarded when complete.] The soil of the bluff is that usually seen in "hogwallow" prairie—a black soil mixed with some shell. This surface soil extends to a depth of about seven feet, then causes a yellowish clay. The direction of the slope of this substratum is not known to me. The surface has a general slope toward the large open prairie west of the town. The exact fall is not known, but seems to be sufficient for drainage. A part of the bluff, possibly one-third, drains into "Salt Lake," about one mile northwest of the town. This lake is now dry from the continued drought. A considerable portion drains into a large ravine or arroyo, which breaks through the edge of the bluff and upon the beach toward the southern end of the city. There is also a small ravine draining a limited portion of the bluff toward the northern end. Except along the front part of the bluff, the population is generally Mexican. They live in huts, jocos, or very small houses of very inferior construction. This class of the population is filthy in the extreme, seeming utterly indifferent or even reckless of the laws of health. Their yards, when they have any inclosure, and the streets in front of their premises are not kept clean. Sometimes they have privies; sometimes none. They dig tanks or holes in the ground, from three to six feet deep and about six feet square, for the purpose of catching water during rains. In other words, this is their cistern. For the purpose of securing a full supply of water, they dig ditches leading into this tank (from the streets generally), to turn as much as possible of the surface water into it.

No process for filtering is used. The tank is not covered nor otherwise protected except by planting a kind of cane, or some small-growth bushes around the edges. Many of these tanks have the privies located near the edge, or the ditches leading to them run close to the privy. They are dry from the late drought, and I noticed many of them in which filth of almost every description was accumulating. Whether they were to be cleaned when clouds portended rain I cannot say, but the evidences of uncleanness to be seen everywhere about the premises of some of these people prepares me to believe the most revolting probabilities.

The large ravine or arroyo drains a good deal of the city inhabited by this class. Privies are used by all the better classes. Most of them have vaults or pits not walled. But there are many of them in which the excrement is deposited on the surface; where they have pits they are generally about three feet deep. The sanitary regulations of the city and the proclamation of the health committee and physician will show the means adopted for abating nuisances of all kinds.

I made special inquiry as to the management of the privies. I was told that during the summer months attention was called to the ordinances by publication. It was made the special duty of inspectors to see that the health ordinances were obeyed. Citizens were also requested to report any nuisances. A large proportion of the people, generally the lower classes, do not co-operate with the health authorities, and the result is that the enforcement of the laws has proved to be a difficult matter.

I have found everywhere that too much consideration is felt for those who are careless about keeping their premises clean. The sanitary regulations of the city and the proclamation of the city physician were forwarded with my report on the quarantine at Corpus Christi, and they are hereby made a part of this report on the sanitary condition.

Cistern-water is habitually used. The recent continued drought has forced all, with few exceptions, to resort to well-water. This is supplied from fifteen or twenty wells dug in the dry bed of the *arroyo*. The wells are from five to thirty-five feet deep, according to their location, the shallowest being nearest the outlet of the *arroyo*. The water sells at twenty to thirty cents a barrel. I have already said enough to show the objection to this water supply. It is a fortunate thing that the same rain that washes filth into the *arroyo* to contaminate the wells also replenishes the cisterns, and thus renders most of the people independent of this source of supply.

There is one market in the city, regulated by city ordinances. I found it kept in good condition, open from 4 to 7 o'clock a. m. during the summer, and until 8 o'clock a. m. during the winter.

The slaughter-houses are two or three miles north of the town. About fifteen beeves daily are slaughtered. Only dry hides are kept in the town. Dead animals are hauled off, as a rule, but I find at least one exception to this in the Mexican portion of the town, where a dead dog had been allowed to decay in the street.

It can hardly be said that any disease is now prevailing here. There are a few cases of malarial fever on the northeast part of the "Bluff." Yellow fever occurred here in 1854, imported by schooner on the steamship *Fashion*, from New Orleans. The deaths were about 30 out of a population of 1,000. Again in 1867 it was imported by means of a passenger from Indianola, Tex. Small-pox has appeared several times, but has been promptly arrested by isolation. There have been few or no cases of typhoid fever. Cholera has never occurred. Febrile diseases are rare. Erysipelas is almost unknown. Trismus nascentium was at one time of frequent occurrence; there has been but little for the past year. Neuralgias are frequent. Tetanus, following injuries, is of frequent occurrence. Surgical operations do well; wounds healing rapidly, as a general thing.

There is a small hospital, the enterprise of Drs. Spohn, Burke, and Hamilton. The county and city pay the rent of the building, which entitles them to a certain number of patients free of charge.

On this subject, my opinion, immediate attention should be given to the streets. A thorough cleaning of the surface; a removal of all refuse and garbage from the streets and about the premises of the people. 2. All the privies should be thoroughly cleaned, and kept so. 3. The Mexican population should be forbidden to drain the streets into their tanks which supply them with drinking water. This is an innovation that they would evidently oppose, but it is time their education was begun. All refuse or filth that can be removed should be carried beyond the limits of the town to the northwest, and all that cannot be should be burned.

If the sanitary regulations of the city are energetically and persistently enforced, they appear to be sufficient to meet the requirements. I should think that \$1,000 would be sufficient to put the city in good condition for the present. This estimate contemplates that a majority of the citizens can be made to carry out the law requiring them to clean their own premises.

Any permanent improvements should have in view the grading of some portions of the "Beach," keeping open the drains, having privies without vaults and forcing owners to keep them clean, and a large sewer draining the *arroyo* from the "Bluff" across the "Beach," and sufficiently far out into the bay to insure its being beyond lowest tide. An engineer would be the only one who could give near a correct estimate of the cost of these permanent improvements. There are some houses that should be raised to allow ventilation underneath them. I did not ascertain what number require to be thus treated.

Stockport is twenty-five miles north-east of Corpus Christi. It is on the mainland, a feet above tide-water on the shore of Aransas Bay, located on a formation of shell and sand. It was founded in 1866, and within one year from that time contained a population of 3,000 people. A great many cattle were shipped from this point, as long as Aransas Pass was open for large steamers. It now contains only about 500 or 600 inhabitants. It is not likely to be a place of much more importance than it is now, as Indianola above and Corpus Christi below are both more accessible to the interior by means of their railroads. The country around is devoted to stock-raising. The town is incorporated and has a mayor and common council who act as health authorities. They have never had any yellow fever or other epidemic at this place. The health here is reported to be excellent. The drainage of the place is naturally good and no grading is done. The streets are very wide and the houses far apart. The privies are generally without vaults. Cistern-water is used.

This place is protected by the quarantine at Shell Bank near Aransas Pass, now controlled by Corpus Christi and by the quarantine at Indianola.

Enton is on the same shore of Aransas Bay, 4 miles above. It contains about 300 or 400 people, nearly all employees of the three beef packeries in operation here. It has a warehouse and wharf. Small vessels touch here on their route through the bays between Indianola and Corpus Christi. I did not have opportunity to examine the sanitary condition of the packeries during the short stay of the passengers here. My information from a citizen of Rockport is that they are kept in good condition.

List of United States consuls.

City or town.	Country or province.
Acapulco	Mexico.
Alexandria	Egypt.
Aleppo	Syria.
Algiers	Africa.
Alicante	Spain.
Amoy	Honduras.
Amoy	China.
Amsterdam	Netherlands.
Antigua	West Indies.
Antwerp	Belgium.
Apia	Navigator's Island.
Archangel	Russia.
Aspinwall	United States of Colombia.
Aurillac	Bay of Islands (British).
Aux Cayes	Haiti.
Bahia	Brazil.
Bahze	British Honduras.
Bangkok	Siam.
Barmen	Germany.
Barbadoes	West Indies.
Barcelona	Spain.
Basle	Switzerland.
Batavia	Java.
Beirut	Syria.
Belfast	Ireland.
Berlin	Germany.
Bermuda	West Indies.
Birmingham	England.
Bogota	United States of Colombia.
Bombay	India.
Bordaux	France.
Bradford	England.
Bremen	Germany.
Breslau	Germany.
Bristol	England.
Brussels	Germany.
Brussels	Belgium.
Bucharest	Roumania.
Buenos Ayres	Argentine Republic.
Cadiz	Spain.
Cairo	Egypt.
Calcutta	Bengal.
Callao	Peru.
Canton	China.
Cape Coast Castle	Africa.
Cape Haytien	Haiti.
Cape Town	Cape Colony Africa.
Cardiff	Wales.
Carriaga	Italy.
Cattingena	Siam.
Casa Blanca	Morocco.
Cayenne	French Guinea.
Ceraia	"Brazil.
Ceylon	India.
Charlotteown	"Prince Edward's Island Britis- America.
Chie Tuo	China.
Chemnitz	Germany.
Chebinhua	Mexico.
Chin Kiang	China.
Christiania	Norway.
Cienfuegos	Cuba.
Canton	China.
Cologne	Germany.
Colonia	Uruguay.
Constantinople	Turkey.
Copenhagen	Denmark.
Cork	Ireland.
Cronstadt	Russia.
Cruzcoax	West Indies.
Damascus	Syria.
Danvers	British Guyana.
Denia	Spain.
Dresden	Germany.
Dublin	Ireland.
Durdee	Scotland.
Falmouth	England.
Fayal	Azores.
Fiume	Austria.
Florence	Italy.
Floresing	Netherlands.
Foo Chow	China.
Frankfort on the Main	Germany.
Funafuti	Maldives.
Gaboon	West Coast of Africa.
Gadatz	Moldavia, Turkish.
Gaspé Basin	Switzerland.
Genoa	Italy.

List of United States consuls—Continued.

City or town.	Country or province.
Ghent	Belgium.
Gibraltar	Spain.
Glasgow	Scotland.
Gonaives	Haiti.
Grand Bassa	Liberia.
Guadeloupe	West Indies.
Guatemala City	Guatemala.
Guayaquil	Ecuador.
Guaymas	Mexico.
Hamburg	Germany.
Hankow	China.
Hobart Town	Tasmania.
Holingsborg	Finland (Russian).
Hokodadi	Japan.
Halifax	Nova Scotia.
Havana	Cuba.
Havre	France.
Hong Kong	China.
Honolulu	Hawaiian Islands.
Iquique	Peru.
Jacmel	Haiti.
Jaffa	Syria.
Jerusalem	Do.
Kanagawa	Japan.
Kingston	Jamaica.
Kingston	Canada.
Laguayra	Venezuela.
La Paz	Mexico.
Leeds	England.
Leghorn	Italy.
Leipsic	Germany.
Leith	Scotland.
Limbayeque	Peru.
Lisbon	Portugal.
Liverpool	England.
London	Do.
Londonderry	Ireland.
Lubeck	Germany.
Lyons	France.
Madras	India.
Malaga	Spain.
Malta	Island of Malta.
Manchester	England.
Manheim	Germany.
Manzanilla	Mexico.
Manila	Philippine Islands.
Maracaibo	Venezuela.
Marseilles	France.
Martinique	West Indies.
Matamoros	Mexico.
Matanzas	Cuba.
Mazatlan	Mexico.
Melbourne	Australia.
Mexico	Mexico.
Moscow	Russia.
Mossum	Sielly.
Mexico City	Mexico.
Milan	Italy.
Mouravia	Liberia.
Montevideo	Uruguay.
Monterey	Mexico.
Montreal	Canada.
Moscow	Russia.
Munich	Germany.
Nagasaki	Japan.
Naples	Italy.
Nassau	West Indies.
Newcastle	England.
Newchwang	China.
Nice	France.
Ningpo	China.
Nuremberg	Germany.
Odesa	Russia.
Onoia	Honduras.
Osaka and Hingo	Japan.
Peking	Siam.
Palerme	Italy.
Panama	United States of Colombia.
Para	Brazil.
Paramaribo	Dutch Guiana.
Patras	Greece.
Peking	India.
Pernambuco	Brazil.
Pesth	Hungary.
Pictou	Quebec.
Pont de Galle	India.
Prague	Czech.
Prague	Austria Hungary.
Pyrmouth	England.

List of United States consuls—Continued.

City or town.	Country or province.
Prescott	Canada.
Ponce	Porto Rico.
Port au Prince	Haiti.
Port Louis	Martin.
Port Said	Egypt.
Port Sarnia	Ontario.
Port Stanley	Falkland Islands.
Quebec	Quebec.
Rabat	Morocco.
Rangoon	Burma.
Rheims	France.
Rio de Janeiro	Brazil.
Rio Grande	Brazil.
Ritz-bittel and Cuxhaven	Germany.
Rome	Italy.
Rosario	Argentine Republic.
Rotterdam	Netherlands.
Rome	France.
Sabanilla	United States of Colombia.
Saltillo	Mexico.
San Juan	Porto Rico.
Sansone	Salvador.
Sonneberg	Germany.
Santiago de Cuba	Cuba.
Sagua la Grande	Cuba.
San Domingo	St. Domingo.
San Juan del Norte	Xicaragua.
Santa Cruz	West Indies.
Santa Martha	United States of Colombia.
Santander	Spain.
Santiago	Spain.
Santon	Brazil.
Savannah la Mar	Jamaica.
Seville	Spain.
Setimbal	England.
Shanghai	China.
Sheffield	England.
Sierra Leone	Africa.
Singapore	India.
Smyrna	Turkey.
Serabaya	Java.
Southampton	England.
Spezia	Italy.
St. Christopher	West Indies.
St. Eustatius	Do.
St. Helena	New Brunswick.
St. John	Quebec.
St. John s	Newfoundland.
St. John s	West Indies.
St. Martin	Africa.
St. Paul de Loando	Russia.
St. Petersburg	West Indies.
St. Thomas	Do.
St. Vincent	Sweden.
Stockholm	Germany.
Stuttgart	Egypt.
Suez	China.
Seradow	Sicily.
Sydney	New South Wales.
Syracuse	Italy.
Tahiti	Society Islands.
Talcahuano	Chili.
Tamatace	Madagascar.
Tampico	Mexico.
Tangier	Morocco.
Tiao-Tsin	China.
Trinidad	West Indies.
Teneriffe	Canary Islands.
Tetuan	Africa.
Tonanto	Canada.
Toulon	France.
Trieste	Austria.
Tripoli	Africa.
Tunis	Do.
Tunstall	England.
Turin	Italy.
Turk s Island	West Indies.
Valparaiso	Chili.
Venice	Italy.
Vera Cruz	Mexico.
Verviers	Belgium.
Victoria	Vancouver's Island.
Vibona	Austria.
Warsaw	Russia.
Windsor	Nova Scotia.
Winnipeg	British North America.
Zanzibar	East Coast of Africa.
Zante	Ionian Isles.
Zurich	Switzerland.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, AUGUST 30, 1879.

[No. 9.]

CIRCULAR No. 8.

INSTRUCTIONS FOR DISINFECTION.

The following circular was prepared for general distribution by the gentlemen whose names are attached, under appointment of the National Board of Health.

In transmitting the report the chairman, Prof. C. F. Chandler, Ph. D., remarks:

It has been the aim of the committee to prepare concise directions for disinfection, so simple and clear that they may be easily followed by any person of intelligence.

In the selection of disinfecting agents the aim has been, 1st, to secure agents which can be relied upon to accomplish the work; 2d, which can be procured in a state of comparative purity in every village in the United States; 3d, so cheap that they can be used in adequate quantities.

It is extremely important that the people should be instructed with regard to disinfection. They must be taught that no reliance can be placed on disinfectants simply because they smell of chlorine or carbolic acid, or possess the color of permanganate, and that, in general, proprietary disinfectants with high sounding names are practically worthless, as they either have no value whatever, or if of value, cost many times as much as they are worth, and cannot be used in sufficient quantity.

EXPLANATIONS.

Disinfection is the destruction of the poisons of infectious and contagious diseases.

Deodorizers, or substances which destroy smells, are not necessarily disinfectants, and disinfectants do not necessarily have an odor.

Disinfection cannot compensate for want of cleanliness or of ventilation.

I.—DISINFECTANTS TO BE EMPLOYED.

1. Roll sulphur (brimstone) for fumigation.
2. Sulphate of iron (copperas) dissolved in water in the proportion of one and a half pounds to the gallon; for soil, sewers, &c.
3. Sulphate of zinc and common salt, dissolved together in water in the proportions of four ounces sulphate and two ounces salt to the gallon; for clothing, bed-linen, &c.

NOTE.—Carbolic acid is not included in the above list for the following reasons: It is very difficult to determine the quality of the commercial article, and the purchaser can never be certain of securing it of proper strength; it is expensive, when of good quality, and experience has shown that it must be employed in comparatively large quantities to be of any use; it is liable by its strong odor to give a false sense of security.

II.—HOW TO USE DISINFECTANTS.

1. *In the sick-room.*—The most available agents are fresh air and cleanliness. The clothing, towels, bed-linen, &c., should at once, on removal from the patient, be placed in a pail or tub of the zinc solution, boiling hot if possible, before removal from the room.

All discharges should either be received in vessels containing copperas solution, or, when this is impracticable, should be immediately covered with copperas solution. All vessels used about the patient should be cleansed with the same solution.

Unnecessary furniture—especially that which is stuffed—carpets and hangings, when possible, should be removed from the room at the outset; otherwise, they should remain for subsequent fumigation and treatment.

2. *Fumigation with sulphur* is the only practicable method for disinfecting the house. For this purpose the rooms to be disinfected must be vacated. Heavy clothing, blankets, bedding, and other arti-

cles which cannot be treated with zinc solution, should be opened and exposed during fumigation, as directed below. Close the rooms as tightly as possible, place the sulphur in iron pans supported upon bricks, set it on fire by hot coals or with the aid of a spoonful of alcohol, and allow the room to remain closed for twenty-four hours. For a room about ten feet square, at least two pounds of sulphur should be used; for larger rooms, proportionally increased quantities.

3. *Premises.*—Cellars, yards, stables, gutters, privies, cesspools, water-closets, drains, sewers, &c., should be frequently and liberally treated with copperas solution. The copperas solution is easily prepared by hanging a basket containing about sixty pounds of copperas in a barrel of water.

4. *Body and bed clothing, &c.*—It is best to burn all articles which have been in contact with persons sick with contagious or infectious diseases. Articles too valuable to be destroyed should be treated as follows:

a. Cotton, linen, flannels, blankets, &c., should be treated with the boiling-hot zinc solution, introducing piece by piece, securing thorough wetting, and boiling for at least half an hour.

b. Heavy woolen clothing, silks, furs, stuffed bed-covers, beds, and other articles which cannot be treated with the zinc solution, should be hung in the room during fumigation, pockets being turned inside out and the whole garment thoroughly exposed. Afterward they should be hung in the open air, beaten, and shaken. Pillows, beds, stuffed mattresses, upholstered furniture, &c., should be cut open, the contents spread out and thoroughly fumigated. Carpets are best fumigated on the floor, but should afterward be removed to the open air and thoroughly beaten.

5. *The corpses* should be thoroughly washed with a zinc solution of double strength, then wrapped in a sheet wet with the zinc solution, and buried at once. Metallic, metal-lined, or air-tight coffins should be used when possible, certainly when the body is to be transported for any considerable distance.

C. F. CHANDLER, M. D., College of Physicians and Surgeons, Health Department, New York; GEORGE F. BARKER, M. D., University of Pennsylvania; HENRY DRAPER, M. D., University of the City of New York; EDWARD G. JANEWAY, M. D., Bellevue Medical College and Health Department, New York; IRA REMSEN, M. D., Johns Hopkins University, Baltimore, Md.; S. O. VANDER POEL, M. D., Health Officer, New York.

THE "List of United States Consuls" published in the BULLETIN last week should have been headed "List of United States Consulates." The list comprised those consulates, the officers of which are required to report to the National Board of Health in accordance with the following provision of section 1 of the Act to Prevent the introduction of Contagious and Infectious Diseases into the United States, viz: "It shall be the duty of the National Board of Health to obtain information of the sanitary condition of foreign ports and places from which contagious and infectious diseases are or may be imported into the United States, and to this end the consular officers of the United States at such ports and places as shall be designated by the National Board of Health shall make to said Board of Health weekly reports of the sanitary condition of the ports and places at which they are respectively stationed, according to such forms as said Board of Health may prescribe."

INTERNATIONAL CO-OPERATION.

Portugal has issued a decree establishing quarantine against the State of New York and the State of New Jersey. The decree is based on "official information and the report of the Consulting Board of Public Health." The effect of this quarantine is reported by the United States consul at Lisbon to be very oppressive to American vessels entering the ports of Portugal. This act of the Portuguese Government has a ludicrous as well as serious aspect—ludicrous because of the entire absence of cause of action, and serious owing to the unnecessary hardship which it entails upon commerce. Aside, however, from these considerations, the incident is very suggestive of the necessity of that kind of international co-operation among sanitary authorities throughout the world which would not only remove existing oppressive quarantine restrictions, but would make quarantine far more effective in the arrest of communicable and transportable diseases. In the community of nations commerce is a vital interest to all alike. No nation can shut its ports against another without inflicting an injury upon itself as well as upon its neighbor. Now, the object of quarantine is the same among all nations, viz. the prevention of the introduction of contagious and infectious diseases from one country into another through the channels of travel and commerce; and all nationalities desire to accomplish this object with as little embarrassment to commercial intercourse as possible. Contagious and infectious diseases being, then, a common enemy of mankind against which every nation endeavors to protect itself, why should not the civilized world combine to prevent their migration? Such combined action is the more feasible at the present time because the preventive measures grouped under the term "quarantine" are the same in purpose, if not effect, in all civilized countries.

These measures aim, first, to arrest any communicable disease that may be discovered in transit into a country; secondly, to secure such cleansing and disinfection of passengers, crew, cargo, and ship as will remove or destroy all infections or sceptic matters. Sanitary science teaches that quarantine effectively administered on such principles will control the spread of contagious diseases; and it is apparent that such concert of action as will instantly arrest the progress of any communicable disease found on the commercial highways of nations, and will secure such constant cleanliness of the vehicles of commerce that contagious and infective matters cannot be transported, will not only prevent the introduction of pestilential epidemics from one country into another, but will immeasurably advance the best interests of commerce itself. But, unfortunately, for lack of uniformity of methods and concert of action among nationalities, existing quarantines not only fail to completely arrest the progress of epidemics, but, as in the case of Portugal, often prove needlessly oppressive and obstructive to commerce.

If, then, it is admitted that the migrating pestilences can be controlled, if not altogether exterminated, by the combined and well concerted efforts of the nationalities of the world, it is clearly the duty of all commercial nations to take such steps as will combine their united efforts to effect this object.

The present advanced state of sanitary knowledge and administration, and the enormous extent and rapidity of international communication, warrant the conclusion that the time has arrived when common cause should be made against the roving pestilences. The plan of effective international co-operation must be devised and formulated by a conference of the health authorities of the several States which enter into such a league. Cholera and other conferences have been held by the European States and much good has resulted from an agreement upon uniform methods of operation; but to meet the larger purposes which are now contemplated, the conference must include the commercial nations of the world, and the result of its deliberations must be an international system of quarantine based upon the latest deductions of science and experience.

PROGRESS OF THE FEVER.

It is not possible at this time to forecast the course and termination of the yellow-fever pestilence of 1879. The season has not as yet reached that acme when all surrounding conditions and circumstances combine to give the greatest violence to the poison. But it may prove encouraging to those engaged in the wearisome duties of applying preventive measures, as well as to threatened communities, to compare the progress of the epidemic at this date last year with its present status. How far the combined and harmonious efforts of the National, State, and local Boards of Health, to control its spread and stamp it out, have effected these results, it is impossible to determine; but the comparison certainly ought to stimulate the health authorities throughout the Mississippi Valley to renewed vigor in enforcing the measures of prevention now universally adopted.

In 1878, at the close of the month of August, the fever was limited, for the most part, to New Orleans, Vicksburg, and Memphis. Cases occurred, widely scattered, among the refugees from these cities, but there was no evidence of any other centers of infection. At the same date in 1879, Memphis and New Orleans are the only cities which have infected districts, while the scattered cases among refugees are, as compared with last year, few in number. The following statement presents these facts as gathered from the returns of the two years:

NEW ORLEANS.—In 1878, the first cases were reported about July 25th, and on the 31st of August there had been a total of 2,577 cases and 87 deaths; during the week there had been 1,201 cases and 333 deaths; during the preceding 24 hours there were 163 new cases and 59 deaths. In 1879 the first case occurred July 28, and up to August 31 there had been 19 cases.

VICKSBURG.—In 1878, the first case occurred August 12, and at the close of the week ending August 27 it was estimated that there had been 800 cases, half of which occurred during the last week and 59 in the last 24 hours. In 1879 no case has been reported to date.

MEMPHIS.—In 1878, the first case was a young man who arrived from New Orleans July 30; for the week ending August 29 there were 721 cases and 241 deaths. In 1879 the first case occurred July 5, and for the week ending August 24 there were 148 cases and 38 deaths.

At Whitehaven, a village of less than 100 population, on Mississippi and Tennessee Railroad, about 10 miles southeast of Memphis, four cases of yellow fever have occurred, two fatal. "Camp Burk" has been established some distance from the village, and depopulation is being pressed. The cases are rigidly isolated, and thorough disinfection ordered.

Report of mortality in cities of the United States for the week ending August 23, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

Places.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Stun-stroke.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Atlanta, Ga.	39,000	11	23	30.7		7	7													
Baltimore, Md.	400,000	28	154	20.0	2	19	36	3			3	1			6					
Boston, Mass.	375,000	70	138	19.2		24	44	4			42									
Brooklyn, Mass.	12,000	1	6	26.0			4													
Brooklyn, N. Y.	264,418	137	246	12.7		11	18													
Burlington, Vt.	16,500	4	6	19.0									1		9					
Cambridge, Mass.	50,000	8	21	25.0		1	3													
Charleston, S. C.	57,000	16	22	20.1																
Chattanooga, Tenn.	12,000	3	6	25.0																
Chicago, Ill.	537,621	151	253	24.5	3	13	52	15			4	1	3	1	11			10		
Cincinnati, Ohio	280,000	45	94	17.5		15	6				5	5			8			1		
Cleveland, Ohio	175,000	34	51	15.2		2	10	4			3							2		
Cincinnati, N. H.	14,000	4	14	14.9		2												1		
Dayton, Ohio	39,000		3	17.3																
District of Columbia	160,000	56	101	32.9	1	13	16				4	6			3			6		
Erie, Pa.	30,000	10	17	23.5		6						1								
Evansville, Ind.	37,500	8	16	22.2	2	1	1													
Hudson County, New Jersey	199,000	36	63	16.5		7	13	3	2						1			1		
Indianapolis, Ind.	97,001	23	33	17.7		3	8				2	3			1				1	
Jacksonville, Fla.	10,000	3	5	26.0			1					1								
Keeok, Iowa	12,000	2	3	25.0			2			1		1								
Lawrence, Mass.	40,000	10	16	20.8		1	2													
Louisville, Ky.	175,000	20	40	11.9	1	3	4	1												
Lowell, Mass.	52,000	7	19	19.0		2	5								1					
Minneapolis, Minn.	114,000	5	14	18.2		4	13													
Minneapolis, Minn.	52,000	10	15	12.0			4				1									
Mobile, Ala.	40,000	10	19	24.7		2		1				1								
Nashville, Tenn.	37,055	8	20	26.6		3	3				1	1								
New Bedford, Mass.	27,000	10	22	14.3		5	6				1	1			2					
Newburgh, N. Y.	17,500	6	17	17.3		1	1			1										
Newburyport, Mass.	13,800	2	8	30.2		1	1				2									
New Haven, Conn.	60,000	6	11	12.2		1	2					1								
New Orleans, La.	210,000	17	27	21.6		14	3	1				1								
New York, N. Y.	1,097,563	255	81	28.9	7	68	122	6	1		32	4	6	7	9	1				
Norfolk, Va.	24,000	3	5	10.9		1	1													
Omaha, Neb.	30,000	8	8	13.9		1	2													
Philadelphia, Pa.	300,380	117	231	16.9	1	29	53	3	1		5				2			10		
Pittsburgh, Pa.	145,000	49	75	20.9		4	14				4	1								
Providence, R. I.	101,500	10	35	18.0		6	4	4				2			2					
Quincy, Ill.	35,000	2	9	13.1		1					1	1								
Reading, Pa.	40,100	5	12	13.6		3	3				1	1								
Richmond, Va.	40,000	24	39	25.4		3	10													
Richmond, Ind.	14,000	1	5	14.6		1				1					2					
Savannah, Ga.	32,636	7	18	28.7		1	3	2	1			1								
Shreveport, La.	7,000	3	4	23.8		1	1													
Saint Louis, Mo.	500,000	62	117	12.3		1	11	1			3	10	1	2	1			2		
Saint Paul, Minn.		3	11	11.9							1									
Utica, N. Y.	35,000	6	10	11.9		1	1													
Vicksburg, Miss.	15,000	2	7	24.3		2														
Wichiting, W. Va.	15,000	1	1	26.8		1	1	5												
Wilmington, Del.	41,013	10	25	29.6		1	2													
Yonkers, N. Y.	19,000	5	9	24.7		2	3				2									
Totals	7,114,716	1,438	2,767	30.2	24	295	514	79	1	3	83	42	13	10	63	1		71	35	1

CITIES IN WHICH BURIAL PERMITS ARE NOT KNOWN TO BE REQUIRED.

Allegheny, Pa.	75,000	15	32	22.2		2	6	6							1				2	1
Augusta, Ga.	26,714	9	17	24.6			1	6											2	
Bath, Me.	10,000			26.5		2			1											
Battle Creek, Mich.	7,500	1	3	20.8			1					1								
Binghamton, N. Y.	18,000	5	11	31.1		2	5	3												
Bridgewater, Mass.	3,900	1	3	41.1							1									
Columbus, Ga.	10,000	2	1	20.8																
Dubuque, Iowa	20,000	1	3	5.2																
Fall River, Mass.	48,500		21	25.8		4	1				1				3					
Houston, Tex.	30,000	3	5	8.7			2					1								
Jackson, Miss.	5,000	1	3	31.2		1														
Louisiana, Mo.	5,000	2	3	31.2							1									
Milford, Mass.	10,000		3	15.6																
Mont Pleasant, Iowa	5,000		3	31.2																
Peoria, Ill.	40,000	2	7	9.1		1														
Pittsfield, Mass.	(7) 13					2														
Poughkeepsie, N. Y.	20,000	3	8	20.8		2	1													
Rochester, N. Y.	90,000	9	31	17.9		1	5					2			1					
Rome, Ga.	5,000	1	1	11.6																
Sing Sing, N. Y.	5,000	1	9	36.8		1					4									
Winona, Minn.	11,756	2	1	17.5			2													
Youngstown, Ohio	17,000	2	3	9.2																
Totals	173,560	60	280	29.7		27	32	10	1	1	7	5	1	2	1			11	3	

* Augusta has 15,216 white population, 11,628 colored; deaths, 6 white, 11 colored. Rate per 1,000 white, 20.5; colored, 19.3. Charleston has 25,000 white, 32,000 colored; deaths, 7 white, 15 colored. Rate per 1,000 white, 11.6; colored, 21.4. Chattanooga has 2,000 white, 1,000 colored; deaths, 2 white, 1 colored. Rate per 1,000 white, 25.0; colored, 11.5. Nashville has 17,500 white, 9,500 colored; deaths, 9 white, 11 colored. Rate per 1,000 white, 28.7; colored, 49.4. New Orleans has 155,000 white, 5,000 colored; deaths, 28 white, 59 colored. Rate per 1,000 white, 9.1; colored, 35.9. Norfolk has 11,087 white, 2,913 colored; deaths, 4 white, 2 colored. Rate per 1,000 white, 11.1; colored, 10.2. Richmond has 46,000 white, 34,000 colored; deaths, 15 white, 21 colored. Rate per 1,000 white, 17.0; colored, 36.5. Savannah has 17,194 white, 15,063 colored; deaths, 3 white, 15 colored. Rate per 1,000 white, 8.9; colored, 31.6.

Reports from the following cities were received too late to appear in the mortuary table for the week ending August 16:

Carrollton, Miss., population 600; 1 death under 5 years, diarrheæ. Columbus, Miss., 5,300; 1 death, alcoholism. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. Fayette, Miss., 300; no deaths. Helela, Mont., 3,500; no deaths. Hernando, Miss., 1,200; 1 diarrheæ. Jackson, Miss., 5,000; 4 deaths; 1 consumption, 1 measles, 1 whooping-cough. Koscinski, Miss., 1,000; 2 deaths; 1 malarial fever. La Fayette Springs, Miss., 300; 2 deaths from diarrheæ, 1 under 5 years. Lawrence, Kans., 8,478; 5 deaths, 3 under 5 years; diarrheæ, 2; diphtheria, 1; measles, 1. Little Rock, Ark., 20,000; 6 deaths, 3 under 5 years; consumption, 1; malarial fever, 2. Morton, Miss., 300; no deaths. Morrisborough, Tenn., 4,000; 2 deaths; consumption, 4; diarrheæ, 1, under 5 years. Peoria, Ill., 40,000; 5 deaths; consumption, 2. Raymond, Miss., 700; 1 death; no cause given. Sacramento, Cal., 25,000; 12 deaths, 6 under 5 years; consumption, 2; diarrheæ, 2; malarial fever, 2. Salem, Ohio, 5,000; no deaths. Salt Lake City, Utah, 25,000; 11 deaths, 5 under 5 years; cerebro-spinal fever, 1; diarrheæ, 3; diphtheria, 2; puerperal fever, 1. San Francisco, Cal., 300,000; 70 deaths, 22 under 5 years; consumption, 10; diarrheæ, 1; diphtheria, 4; lung diseases, 8; typhoid fever, 5. Shreveport, La., 7,000; 5 deaths, 2 under 5 years; consumption, 1; diarrheæ, 1. Somerville, Mass., 23,000; 9 deaths, 3 under 5 years; consumption, 2; diarrheæ, 2. Tampa, Fla., 1,000; 3 under 5 years; consumption, 2; diarrheæ, 2. Wayneborough, Miss., 500; 1 death from consumption.

The following places report not more than *one* death from any of the diseases named in the table, for the week ending August 23:

Ann Arbor, Mich., population 7,520; 1 diarrheæ. Belfast, Me., 5,278; 2 deaths; pneumonia 1, drowned 1. Brunswick, Ga., 3,000; 1 consumption. Burlington, Iowa, 30,000; 1 heart disease. Cedar Keys, Fla., 1,200; 1 diarrheæ, under 5 years. Edgartown, Mass., 1,700; 2 deaths, 1 consumption. Fayette, Miss., 300; 1 disease of brain. Franklin, Ind., 4,000; 1 diphtheria. Gallipolis, Ohio, 5,500; 2 deaths; 1 consumption. Greenwood, Miss., 400; 1 malarial fever. Jackson, Tenn., 7,500; 2 deaths; 1 cholera infantum, 1 dropsy. Marblehead, Mass., 7,500; 1 whooping-cough. Monmouth, Ill., 6,000; 1 scarlet fever. Nantucket, Mass., 3,000; 1 cancer. Niles, Mich., 1,630; 1 consumption. Pass Christian, Miss., 4,000; 1 cholera infantum. Pensacola, Fla., 8,500; 1 diarrheæ. Plymouth, Mass., 6,331; 2 deaths; 1 diarrheæ. Port Huron, Mich., 8,200; 1 consumption. Quarantine hospital, New York; 3 cases of yellow fever, 1 death. Ripley, Miss., 1,000; 1 death, no cause given. Tuscaloosa, Ala., 1,000; 2 deaths; 1 diarrheæ, 1 convulsions, both under 5 years. Verona, Miss., 900; 1 cerebro-spinal fever.

The following places report *no deaths* for the week ending August 23:

Abbeville, Miss., population 300. Carrollton, Miss., 600. Columbus, Miss., 5,300. Franklin, Tenn., 1,200. Holden, Mo., 3,000. Hudson, N. Y., 8,781. Lexington, Mo., 4,000. Madison, Ind., 12,000. Morton, Miss., 200. Ocean Springs, Miss., 1,500. Okoloma, Miss., 3,000. Painesville, Ohio, 5,000. Starkville, Miss., 1,613.

ABSTRACTS FROM CONSULAR REPORTS.

PORTUGAL QUARANTINES AGAINST NEW YORK AND NEW JERSEY.—Consul Henry W. Diman transmits to the State Department from Lisbon, under date of August 2, 1879, the following decree of the Government of Portugal:

"In consideration of official information and the report of the Consulting Board of Public Health, the ports of the States of New York and New Jersey are considered as infected with yellow fever from and after the 15th instant, and all other points in the Atlantic States of the Union are considered as suspected of the same disease from and after the same date. Dated July 30, 1879."

The consul adds:

"In accordance with this decree, and with the permanent sanitary regulations, all vessels arriving in any of the ports of Portugal or the adjacent islands from the States of New York or New Jersey will be subjected to a rigorous quarantine of eight days at the lazaretto at Lisbon, and if their cargoes contain goods susceptible of transmitting disease, the cargo must be discharged in the lazaretto. Vessels arriving from suspected ports will be

subjected to simple quarantine, which, however, must be performed in all cases at the Lazaretto in Lisbon. By far the larger part of the importations in Portugal from the United States consist of wheat and corn, which is always imported in bags. Bagging is considered here as susceptible of transmitting diseases, so, consequently, all such cargoes must be discharged in quarantine at Lisbon, which course, for vessels bound to the Azores, Madeira, or Oporto, is very inconvenient and expensive."

CALLAO, PERU.—R. T. Clayton, United States consul, writes as follows to the Surgeon-General of the Marine Hospital Service, under date of July 29:

In the month of June last small-pox appeared in this port and has since assumed the form of an epidemic. It has been confined principally to the lower order of the native population, and so far has proved very fatal (about 50 per cent.), most of the deaths being from the confluent form of the disease, occurring in subjects which had never been vaccinated. Foreigners form but a small percentage of those attacked, and but three or four cases have occurred in the shipping lying in the port. There is nothing to report regarding the type of the disease, as it is of the usual form.

BERMUDA.—United States Consul C. M. Allen writes, August 2: "These islands are remarkably healthy; no other contagious disease than measles exists here. There is one vessel in quarantine which came from Wilmington, N. C., having on board a case of 'swamp fever.' The quarantine laws here are rigorously enforced." Will Consul Allen send to the BULLETIN a copy of the quarantine rules and regulations of Bermuda?

CONSUL HALL, Havana, telegraphs August 26: "Steamers *Maria* and *Vidalula*, barks *Aggatha* and *Trachague* leave for New York; barks *Leucia* and *Trachague* leave for Pascagoula."

THE YELLOW FEVER.

Consul Hall telegraphs from Havana, August 22: Barks *Black Prince*, for New Orleans, and *W. H. Glenn*, for Baltimore, had yellow fever. Spanish polacre *Augustina*, for Pascagoula, not known.

MEMPHIS, TENN.—August 23, 9 cases; 5 white, 4 colored; 7 deaths since last report. August 24, 17 cases; 8 deaths; total cases for the week, 148; white 69, colored 79; deaths for the week 38; white 28, colored 10; deaths from other causes 18. August 25, 19 cases; 7 white, 12 colored; 8 deaths; 4 white, 4 colored. August 26, 34 cases; 20 white, 11 colored; 7 deaths; 6 white, 1 colored. August 27, 28 cases; 15 white, 13 colored; 6 deaths; 5 white, 1 colored. August 28, 22 cases; 10 white, 12 colored; 7 deaths; 4 white, 3 colored. August 29, 3 cases, all white; 8 deaths; 6 white, 2 colored, since last report.

MISCELLANEOUS.

WHITE HAVEN, TENN.—Four cases of yellow fever occurred in this place. It is a village of less than 100 inhabitants, on the railroad, 10 miles southeast of Memphis. A camp was immediately established some distance from the town and the people removed. The first cases were rigidly isolated and thorough disinfection ordered.

At Tullahoma, Tenn., the nurse of the Rev. Mr. Tiller, who died of yellow fever at Shelbyville a month before, was attacked with the fever and died August 23, though he had never been in Memphis.

The total number of cases of yellow fever at Memphis for the week ending August 21 was 148; whites 69, colored 79. Total yellow fever deaths for the week, 38; white 28, colored 10; deaths from other causes 18.

Dr. Ames, President Board of Health, Starkville, Miss., telegraphs August 23: "The report is not correct; we never had a case of yellow fever at this place."

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

SANITARY ORGANIZATION AND OPERATIONS AT CINCINNATI, OHIO.

Dr. Thomas C. Minor, health officer, makes the following interesting statement of the organization and operations of the health department of Cincinnati, Ohio:

THE OHIO QUARANTINE ACT, passed by the last general assembly of the State, confers on all local boards of health the power of establishing quarantine, as follows:

SECTION 1. *Be it enacted by the General Assembly of the State of Ohio* That any city or town in the State of Ohio, having an organized board of health or health officer, may establish a quarantine ground or grounds within or without its own limits: *Provided*, If such place be without its limits, the consent of the town within whose limits said quarantine may be established shall be first obtained.

SEC. 2. That the board of health or health officer of any city or town in the State of Ohio may, in times of epidemics or threatened epidemics, establish a quarantine on vessels, railroads, or any class of vehicles used for the purpose of transporting passengers, baggage, or freight, and the said board of health or health officer may make such rules or regulations as may be deemed wise and necessary for the protection of the health of the people of the community or State.

SEC. 3. Whenever quarantine shall be declared, all railroad and steamboat corporations, and the owners, or assignees of any railroads, steamboats, stages, or other vehicles used for transportation of passengers, baggage, or freight, shall submit to any rules or regulations imposed by the said board of health or health officer; they shall submit to any examination required by the health authorities respecting any circumstances or event touching the health of the crew and passengers, and the sanitary condition of the baggage and freight; and any owner, consignee, or assignee, or other persons interested as aforesaid, who shall make any unfounded declaration respecting the points under examination shall, upon conviction thereof before any court or justice of the peace, forfeit and pay a fine not exceeding one hundred dollars and suffer six months' imprisonment, either or both, at the discretion of the court; all fines thus collected, less costs, to be turned over to the sanitary fund of the city or town where such quarantine may be established.

SEC. 4. All rules and regulations passed by the board of health or health officers shall apply to all persons, goods, or effects arriving by railroad, steamboat, or other vehicle of transportation after quarantine is declared.

SEC. 5. That the board of health or health officer of any city or town in the State of Ohio shall be authorized to erect any temporary wooden buildings or field hospitals deemed necessary for the isolation and protection of persons or freight supposed to be infected: *Provided*, That such place be constantly guarded by a competent force of at least three sanitary officers.

SEC. 6. That the board of health or health officer may appoint during the time of quarantine a sufficient number of sanitary inspectors, the salaries of such inspectors to be fixed by the said board of health or health officer.

SEC. 7. That in case of any epidemic or threatened epidemic, the council of any city or town in the State of Ohio shall have power to borrow until such time as the next levy and collections thereof be made, and at a rate of interest not to exceed 6 per cent, any sum of money that the board of health or health officer may deem necessary to defray the expenses of the aforesaid quarantine.

SEC. 8. That this act shall not repeal any pre-existing law for the preservation of the public health, and this act shall take effect and be in force from and after its passage.

In pursuance of this act the health officer of Cincinnati proclaimed quarantine on July 21, 1879. The following is a transcript of this order:

From 12 m. this date, and until further notice, all steamboats from southern ports, before landing at the port of Cincinnati, will remain in midstream two hundred (200) feet below Delhi quarantine station, on the Ohio River, until such time as the quarantine physician and sanitary inspectors shall have examined as to her sanitary condition.

If such boat shall have on board any yellow fever, or any sick person whose symptoms shall cause suspicion, no landing of such vessel at the port of Cincinnati will be allowed.

If the vessel is found in good sanitary condition, the sworn statement of her chief officer regarding the health of her passengers and crew during the voyage, and the character of her freight, will be taken and a certificate of health furnished. The boat will then be allowed to land at the city wharf or proceed on her voyage up the Ohio River. No master, charter, owner, part owner of any vessel, or any other person, shall bring to any dock, pier, wharf, or landing within the corporate limits of the city of Cincinnati any household effects, skins, hides, rags, or similar articles or material, conveyed or shipped from any infected point south of Louisville, Ky., without a written permit from the health officer of the port of Cincinnati.

No captain, officer, consignee, owner, or other person in charge of a boat (or having the right and authority to prevent the same) shall remove or aid in removing from any boat to the shore (save as legally

authorized by the health officer of the port of Cincinnati, and into quarantine grounds or hospital only) any person sick or having symptoms of yellow fever, or liable to develop said disease, nor to remove or aid in removing any articles that have been exposed to the contagion of such disease, except on a permit of the health officer of the port of Cincinnati.

That no owner, part owner, charterer, agent, or consignee of any boat, nor any officer or person having charge or control of the same, shall allow to be cast therefrom, and no person shall cast therefrom into the public waters of the city of Cincinnati, or within one thousand feet thereof, any straw, bedding, clothing, or other substance from any incoming vessel from any port south of Louisville, Ky., without a permit from the health officer of the port of Cincinnati.

All railroads are forbidden to deliver at the port of Cincinnati, during the term of quarantine, any sick passengers, household effects, baggage, or any baled goods, such as baggage, rags, feathers, wool, moss, hair, &c., shipped or consigned from infected points south of Louisville, Ky., and no trains will be permitted to enter the corporate limits of the city or within three miles thereof without the permission of the examining surgeon.

No through sleeping cars or coaches from infected points lying south of Louisville, Ky., will be allowed to enter the corporate limits of Cincinnati or approach within three miles thereof.

These rules, for the present, do not apply to healthy parties without baggage passing north.

All physicians shall report to the health department with the least possible delay the presence of any patients who to their knowledge or belief exhibit symptoms of yellow fever.

Any violation of these rules and regulations will render parties so offending liable to prosecution for violation of the Ohio quarantine act.

All boats ascending the Ohio River from points below Louisville, Ky., including Louisville and Madison packets, are notified to stop in midchannel at a point two hundred feet below Delhi Station. Captains and owners of boats, including Louisville and Madison packets, are also notified that no household effects, rags, hair, skins, hides, baggage, or sick passengers from suspected points below Louisville shall be shipped at that port for the port of Cincinnati.

The day signal at quarantine station will be an orange-colored flag waved three times from left to right. The night signal will be the burning of a red bengal light, and a red lantern waved three times from left to right. On receiving such signal the pilot will stop his boat in midchannel. Any violation of these orders will be construed as a violation of the Ohio quarantine act.

THE HEALTH DEPARTMENT OF CINCINNATI, OHIO.—The police commissioners of the city of Cincinnati act as a board of health, but confer all the power invested in them on their chief executive of the health department, the health officer holding him personally responsible for the management and enforcement of all sanitary regulations.

The health department of the city, under the direct supervision of the health officer, embraces four separate and distinct bureaus, viz:

1. *Bureau of vital statistics*, which is intrusted with the collection of all data relative to population, including a complete registry of all births, marriages, and deaths occurring within the corporate limits of the city.

2. *Bureau of medical relief*, managed by a corps of twenty-five physicians and twenty-five druggists—one physician and one druggist in each ward of the city. The sick poor of each district are attended gratuitously, and furnished with medicine free of cost by the city.

3. *Bureau of sanitary inspections*, managed by a superintendent and twelve men, whose special duty it is to visit all houses in their respective districts, inspect nuisances, remove persons suffering from contagious diseases, and perform such other sanitary duties as may be required by the health officer. Thirteen men is the minimum force assigned for this purpose, but in times of epidemic or threatened epidemic any extra number of men required are detailed for duty from the regular police force on the order of the health officer. If required, over four hundred extra men, or the entire police department, could be detailed for quarantine duty without extra expense to the city.

4. *Bureau of markets*, managed by a superintendent, six market masters, who are inspectors of market produce, two meat inspectors, and one inspector of milk.

CINCINNATI QUARANTINE.—On the declaration of quarantine, ten district physicians and the entire force of sanitary inspectors are placed on quarantine duty, a reserve force of fifteen district physicians held in the city as a reserve, to be used as the occasion may demand. At the present time this quarantine force is placed as follows: Station No. 1, on the Ohio River, 12 miles below the city; two medical officers in charge, together with four sanitary inspectors and two boatmen. This station has control of all boats ascending the Ohio from points south of Cincinnati. Boats from points below Cairo are detained and examined at this station, all sick passengers removed, and contraband freight placed on anchored barges, the bilge-water pumped from the hold, and the vessel thoroughly cleaned up, disinfected, and fumigated. All baggage is likewise opened and fumigated. Boats from north of Cairo are also stopped and examined before being granted bills of health.

THE STATE BOARD OF HEALTH of Tennessee adopted the following rules on the 18th of August, 1879:

RULE 1.—No person shall be permitted to enter a town or place which is "dangerously infected" with yellow fever, unless such person has already had the yellow fever, and then only after obtaining permission of the superintendent of quarantine.

RULE 2.—The superintendent of quarantine at each place "dangerously infected" shall have charge and control, with the counsel and advice of this board, of the disinfection of houses, privies, cellars, clothing, bedding, and all other textile fabrics, baggage, wails, cars, depots, sewers, drains, public and private yards, and such other places and things as it may be at any time considered necessary to disinfect.

RULE 3.—Local boards of health are expected to have charge of and to enforce general sanitation within the limits of their respective jurisdictions, and to give aid and support to superintendents of quarantine, during epidemics, in the carrying out of such rules and regulations as the State board have adopted or may, from time to time, adopt.

RULE 4.—A house infected with yellow fever shall be designated by a yellow flag.

RULE 5.—No person shall be permitted to enter a house infected with yellow fever, except physicians, clergymen, and such nurses and attendants as are necessary to the care of the sick.

RULE 6.—No person, except physicians and clergymen, shall be permitted to leave an infected house without the permission, in writing, of the superintendent of quarantine, they having first complied with such methods of disinfection as may be prescribed by him.

RULE 7.—Physicians and clergymen may enter and retire from the apartments of the sick of yellow fever at all hours; provided, however, that they shall not enter a non-infected house, carriage, car, or other public place of resort until their persons and apparel have been thoroughly disinfected.

RULE 8.—Public assemblies of all kinds are prohibited in any place "dangerously infected" with yellow fever, and the superintendent of quarantine is charged with the rigid enforcement of this rule.

RULE 9.—From the hour of 9 p. m. to the hour of 4 a. m. each day all persons engaged in the care of the sick or in the execution of their duties as officers of the law shall remain at their homes or on their respective premises, unless permission to leave them be granted by the superintendent of quarantine. [The enforcement of this rule was left to the discretion of the president.]

CORPUS CHRISTI AND INDIANOLA, TEX.—Inspector Dr. J. H. Pope sends the following report, August 6 and August 13:

The present station is at Shell Bank, an island twenty three miles northeast of Corpus Christi, inside of Aransas Pass, a passage to Corpus Christi, and from Indianola by the inside bayou. It is also on the only approach to Rockport by any pass south of Saluria (off Indianola).

The station consists of only one house, used by the quarantine officer, and a small outhouse used by his boatmen. The nearest inhabited dwelling not connected with the quarantine station is on Ilog Island, two miles off. There are no hospital accommodations. About twenty-five acres of the island can be used for quarantine purposes; the remainder is too low, and subject to overflow. All ports and countries south of north latitude 25° are quarantined for the time specified in the proclamation of the governor of the State, whether the bill of health be clean or foul. The diseases quarantined are yellow fever, small-pox, cholera, plague, and typhus fever; occurring during transit, they would not only render the individual but the vessel subject to quarantine.

No vessel has ever arrived here with a medical officer on board. Arrivals from ports which have been infected, but where the disease has been officially certified to have ceased, and where clean bills of health are issued are still quarantined for eight or ten days.

No instances of the spreading of disease has ever occurred at this quarantine establishment. No cargo has ever been landed here. Cargoes are fumigated on the vessel or on lighters. The officer here has no knowledge of any cargo or portion of cargo being injured by the means used for disinfecting and fumigating.

All arrivals from infected or suspected ports are inspected as regards cleanliness and ventilation. If the condition is bad, the vessel is thoroughly washed with salt water, then with carbolic water, fumigated (hereofore with chlorine gas), and then ventilated as thoroughly as possible. Record is kept of sanitary condition of vessels in quarantine.

Inspection of vessels leaving this port is always made and certified to before a clean bill of health is issued; the inspection applies to crew and passengers also. Yellow fever and small-pox have occurred at Corpus Christi, the former in 1857; the latter was most prevalent in 1876, but on several occasions a few cases have occurred. The yellow fever is said to have been introduced from Indianola in 1857 by passengers.

Quarantine by land was established against infected and suspected places in 1875. Guards were placed on all the roads approaching Corpus Christi. The quarantine physician thinks "such meas-

ures advisable in times of great danger, but believes it is very difficult to make an inland quarantine effective against any organized attempt to evade it. There was no evasion of the quarantine in 1875, so far as known to the quarantine physician.

Accommodations for about twelve persons should be furnished as soon as possible; tents could be used for this purpose. There is a quarantine ground maintained by the State at Corpus Christi Pass, on the head of Padre Island; but all passengers, both sick and well, should be quarantined on Shell Bank Island. The "bulkhead" at Corpus Christi Pass is being dredged. Should this succeed and the pass be opened to sufficient depth to admit sea-going vessels, nearly all vessels for Corpus Christi would probably enter by that pass. In such event a permanent quarantine station would be more conveniently established there.

I have not personally inspected the surroundings, but am informed that the harbor side of Mustang Island is a convenient site for a quarantine station. Appropriation has been made by the State for building permanent warehouses, &c., for quarantine purposes at this port, but I am not informed as to what is being done toward constructing the buildings. If the permanent station is made at Corpus Christi Pass, a guard at Shell Bank would protect the only other avenue of approach to Corpus Christi and Rockport. Between Saint Joseph's Island and Matagorda Island, about thirty miles above Aransas Pass, is a narrow bayou connecting the gulf with the bay. I am informed by some persons that it would be possible for small schooners, such as those from Tampico, to anchor on the Gulf side and lighter a cargo through this bayou, and thus send freight to points on the mainland. Others say that while lighters could go through the bayou, the inside bay opposite this point has no channel containing more than eighteen inches of water at ordinary tide. There is no quarantine guard at this bayou. The necessary buildings for a permanent station at this port would cost about \$3,000; cost of the site would depend on location.

Most of the town of Corpus Christi is in a bad sanitary condition, and will be rendered worse by rains, unless by very heavy washing rains. The authorities seem to be earnestly at work trying to remedy the evil, but the lower classes (chiefly Mexicans) do not co-operate in the work, evading the law whenever they can. The population is 3,601, of whom 1,774 are white, 1,294 Mexican, and 533 negro. The transient population, including sailors, will approximate 100.

INDIANOLA was founded in 1857 and incorporated in 1858. The population in 1870 was about 2,500; in 1875 it was estimated to be over 3,000. Since the destruction of the city by a cyclone in 1875, the population has been about 900, 700 whites and 200 negroes. About half are foreign-born. It is built on a long, narrow peninsula of shell and sand, between Matagorda Bay and Powderhorn Lake and Bayou and contiguous marshes. The variation of tide is a little more than one foot, unless affected by winds, being highest during easterly winds. The tide is about the same on the two sides of the peninsula. The current in the bayou is said to average about three miles an hour. There is practically but one street (Main), 70 feet wide, besides the cross streets, 60 feet wide, and the alleys, 20 feet wide. Main street runs along the highest part of the town, the surface sloping slightly from this line toward the bay and the lake and marshes. The storm of 1875 drove the water across the peninsula with such fury as to wash ravines or large gulches in many places. In some places channels have been washed out to a depth of several feet below low-tide. These contain water; some of the small gulches contained water until it was evaporated; from others the water has been allowed to communicate with that of the bay by means of small ditches. This was done to prevent the fish from dying in the stagnant pools. There are about 220 houses, including dwellings and stores. The area of the city is about 200 acres.

Drinking water is generally obtained from cisterns. Some of the lower classes have been driven by the drought to use well water for all purposes, and the better classes have been of late using it for cooking. The cisterns are generally above ground; a few are under ground. The wells are only a few feet deep and the water has a decidedly saline taste. None of the wells are near privies. Privies usually have no sinks nor vaults; the depth of the existing vaults is about two feet. Some of them have tubs or other wooden vessels substituted for earth closets. The mayor says that he requires the marshal to make frequent inspections. If complaint is made through the marshal the nuisance is abated, but there is no regular cleaning of the privies nor premises. There is one private market which is in good condition, from present appearances. There are no vegetable nor fish stalls in the town.

Two heaves a day are killed at the slaughter-house, two miles north of the town. Bones in large quantities are shipped through Indianola from the interior. They are unloaded from the cars at the lower end of the town, near Powderhorn Bayou. Nothing particularly unsanitary could be discovered in connection with this business. The mayor says that only dry, clean bones are brought in. On two occasions he has sent back a mass that did not come up to his requirements. Dry hides are received by two firms and kept for a longer or shorter time in warehouses. These houses are in good order, but the inevitable odor of the hides is there.

One of the cemeteries is one and a half miles and another two and a half miles from the town. The character of the soil is about the same there as in the city. Decay of bodies, as shown by exhumation,

is very rapid, except in one or two instances where they were buried in a yellowish salty clay, in which they have been known to be preserved for about two years.

The vital statistics, weekly sent by the mayor to the National Board of Health, are made out from rumor and memory. Under existing circumstances they are reliable. The population is small. There is but one physician here. He informs me there is very little sickness. Deaths are very rare—only 8 during the past year—so that when one of the inhabitants dies it is not likely to be overlooked.

Of the 8 deaths during the past year, 2 were under five years old, 1 six years old, from diphtheria (?). The others were people of fifty years and over. The last death was from uremic poisoning, in a case of progressive paralysis.

Immediate and constant attention should be given by the local authorities to cleaning regularly the streets, alleys, premises and privies. Less than one hundred dollars per month should cover all the expense incurred by the public. The remainder should be done by citizens, occupants of the property. Earth closets should be substituted for privy vaults. The question of permanently improving the sanitary condition of the town is a more complicated one. One plan is to continue the system recommended for temporary adoption, until every citizen forms the habit of attention to sanitary laws, and trusting to the cyclones and overflows to supply any deficiency in the cleansing process. The other plan contemplates removal from the present site to one with more natural sanitary advantages. The only important place has as a shipping point. Pascacuallo is one of the best entrances on the Texas coast, and Indianola is connected with the interior by sixty or seventy miles of railroad.

The surrounding country for twelve miles inland is a low, flat prairie; then there is quite a sudden rise of about fifteen feet. The farms are all devoted to stock raising; the retail trade of the town amounts to very little. The facts that Indianola is an important shipping point, in direct communication with the West Indies; that her railroad already communicates with a thickly populated portion of the interior; that it is only a question of time, when she will be closely connected with the railway system of Texas, make it a matter of importance that her sanitary condition should be closely watched. The citizens of the place seem to have little confidence in its future, the reason being its exposure to storms. No city taxes are collected. The municipal officers serve without any salary, under which plan the people would naturally be less likely to hold them responsible for neglect of any duty. It may be said there is one sanitary advantage in the present site, viz: It is not at all likely that the place will increase in size, nor become more densely populated. It will be easier to have a village kept clean than a city, and if infectious disease should be introduced, there would be less material for it, and less liability to spread to the interior.

CHARLESTON, S. C.—Dr. Leiby, health officer, reports as follows on quarantine to the general assembly, August 9:

An experience of ten years (from 1869 to 1878, inclusive) has proved the efficiency of the quarantine laws of South Carolina when rigidly enforced. In 1871 Charleston was visited by yellow fever, which could not be traced to foreign importation, although every effort was made to do so. There were during that visitation 212 deaths.

Again in 1874 there were 37 deaths; and in 1875 1 death from Savannah, making a total of 250 deaths in the past ten years. Add to this 25 deaths from the same disease at Port Royal in 1877, and we have an aggregate of 275 deaths in the seaports of the State. There is strong evidence of the efficiency of quarantine, even with the small amounts appropriated for the maintenance of four stations. Compare the above with the ten years from 1819 to 1829, inclusive: one quarantine station in the State, that in Charleston harbor, which, with the lazaretto, cost the State, I am informed, \$4,000 annually. During that decade there were five epidemics of yellow fever in Charleston, destroying 2,000 persons. In addition to this may be added the number to whom the epidemic proved fatal in Beaufort, the correct data of which I have not been able to find. There was no quarantine at Beaufort at that time. In giving these statistics to the general assembly, my object is to impress upon the attention of our legislators the absolute necessity of a larger appropriation for the support of this all-important institution and the benefits accruing to the State.

Dr. H. A. Johnson, member of the National Board of Health, makes the following report of a visit to Saint Louis, Mo., under date August 11, 1879, from Chicago:

In obedience to instructions received on the 8th instant, I repaired to Saint Louis, Mo., and reported to the mayor and health department of that city on the 9th. In company with Health Commissioner Freeman I visited the quarantine station and made the inspection as directed.

The station is situated on the west bank of the Mississippi River, 12 miles below the city, and is in communication with the health office by telegraph. The channel of the river is near the Missouri shore and the landing is safe and convenient for steamers of any size.

The station consists of a central building for the administration, built of brick, two stories in height, and well equipped and furnished; a building of brick and stone, with rooms for patients of the better class; a dispensary and kitchen; a bath-house; a small building for disinfection, and a fine hospital building on the pavilion plan with accommodations for 12 to 15 patients. The establishment can take care of 150 patients in an emergency. The pavilions are one story and are built so as to admit of pure ventilation beneath them. The privies are separate from the wards and are in connection with a system of sewers by which the whole establishment is well drained. The wards are light, well aired, and in every respect in good condition. There is back and upon the hill a reservoir containing 150,000 gallons of water pumped from the river. The quarantine grounds are owned by the city of Saint Louis and comprise 160 acres of high rolling ground sufficiently remote from any private residence. On the north is the government reservation of 3,000 acres on which are located the Jefferson Barracks.

The surface is loose, with beneath a stratum of magnesian limestone. The city employs at quarantine 35 persons, as follows: Two physicians, 1 steward, 1 matron, 8 nurses, 1 engineer, 1 telegraph operator, 4 fumigators, 1 night watchman, 1 grave-digger, and several laborers, a steamboat and crew. The cost to the city of the maintenance of the station is about \$200 per day. The physicians are paid \$50 per month, each steward \$50, nurses \$50, each telegraph operator \$100, fumigators \$50 each. The steamboat is subject to the orders of the health commissioner night and day, for which service the city pays \$55 dollars per day. All steamboats from the Ohio River and from the Mississippi River below Cairo are required to land at quarantine and are then subject to inspection, and all are fumigated, whether there are any sick on board or not. The fumigation consists in burning sulphur and by the liberation of chlorine gas. If any are sick they are removed to hospitals. If from an infected port, the baggage is placed in the disinfecting rooms and subjected to the same process as the boat, and freight is removed to barges. No boats are permitted to land at Saint Louis without the permit from the officer at quarantine. The station appears to be in every respect in good condition, and the administration satisfactory, so far as I can judge. There is but one thing lacking; there are no quarters for the detention of the well and no provisions anywhere for keeping them under observation.

The city authorities ask the National Board of Health to supply this want, and also to employ some competent physician at this port to diagnose yellow fever. So far there have been but two or three cases in which it has been desirable to detain those not sick for observation, and should there be no spread of the bilious fever along the river towns, there probably will be no necessity for such provisions.

The authorities, however, desire to be prepared for such an emergency. They argue that such detention is not especially for the safety of Saint Louis, but for the surrounding country, and for the State of Illinois opposite. In case of such a condition in the South as would lead to the migration of larger numbers by the river, there must be many who, unable to pay for subsistence, would be entirely dependent upon municipal or government aid. In other words they would be practically paupers, and Saint Louis ought not to be required to receive and support them. An application had been prepared asking the National Board to make an appropriation for the purpose above mentioned, but had not yet been forwarded. I made such explanation as seemed necessary as to the powers of the National Board, and the mode in which it can aid and co-operate with local boards, without expressing any opinion as to what will be its action in this case. It gives me pleasure to state that the mayor of Saint Louis and Commissioner Francis extended to me every possible facility, and, as far as I can judge, are in sympathy and desire to co-operate with the National Board of Health.

SAVANNAH, GA.—Inspector Dr. A. N. Bell sends the following appendix to his report of July 21, published in number 5 of the BULLETIN. The letter is addressed to the health officer of Savannah:

The Sanitary Commission of Savannah, Ga., adopted the following resolution, July 21, to wit:

"Resolved, That from this date, in addition to the quarantine regulations now in force, sailing vessels from all ports be required to be inspected by the quarantine officer before being permitted to proceed to the city."

Notice of this order has been given to the pilots. This will make it necessary for you to board and inspect every sailing vessel that arrives. The first object is to ascertain if there is any infectious or contagious disease; then if the vessel has been in infected ports during the past twelve months, and if there has been any sickness on board during that time; then the sanitary condition and cleanliness of the vessel and crew; and, last, to enforce the condition that crews must sleep on shore while the vessel is at the city. When all the conditions are favorable—that is, no sickness, and have not been in infected ports during the past year, and the sanitary condition of vessel and crew good—they will be permitted to proceed without de-

tention. If sickness, or if vessel has been in infected ports during past year, or if in filthy condition, they must be detained and treated in all respects in the same manner as vessels are now treated from ports south of the latitude of Cape Hatteras. In all cases insist that crews sleep on shore while vessel is at the city, and prohibit the removal of any bedding from vessels. It is very desirable to avoid unnecessary detention of vessels, and, if possible, to avoid the necessity of their anchoring. With this view it will be well to be prepared to board all vessels, where practicable, below the quarantine station, in order that you may give the proper directions, either to stop or to proceed, before the quarantine anchorage is reached. This order does not in any way change the orders previously enforced as to vessels from ports south of the latitude of Cape Hatteras; they will be treated in all respects as they have been in the past.

KEY WEST.—Sanitary Inspector Dr. W. H. Elliott sends the following supplementary report, August 13:

In the report on Key West it was stated that the salary of the "port and city physicians" was a subject of dispute between the incumbent, Dr. J. V. Harris and the board of health. The board demanded that the fees collected by the port physician should be turned into the city treasury in accordance with the provisions of section xiii, "quarantine rules." Upon the refusal of Dr. Harris to comply, the board of health at a meeting held August 3, 1879, passed a resolution declaring the office vacant.

The board then proceeded to fill the vacancy by the election of Dr. Mason V. Whitehurst. This gentleman had held the office in 1878, and had proved most diligent in sanitary matters. He failed to be re-elected in 1879 through political considerations. I am satisfied that under his administration local sanitation will receive due attention and quarantine be made as efficient as defective rules and want of appliances will allow.

HAZLEHURST AND CRYSTAL SPRINGS, MISS.—Inspector Dr. Wirt Johnson writes as follows under dates of August 20 and 21:

Hazlehurst is situated on the Chicago, Saint Louis and New Orleans Railroad, one hundred and fifty miles north of New Orleans. It has a population of between 1,200 and 1,500, about one-fourth being negroes. The natural drainage of the town is excellent, the surface sloping in two directions, east and west. The elevation above the level of the sea is about 130 feet. The water supply is from wells, from forty to fifty feet in depth, and the water seems to be pure. The general sanitary condition of the place is good. There seems to be general cleanliness observed. There is a town board of health, and the president of the common board also resides here. A quarantine ordinance is in force against Memphis.

Crystal Springs.—This town is situated on the Chicago, Saint Louis and New Orleans Railroad, about one hundred and fifty-nine miles north of New Orleans. The water supply is from wells about forty feet in depth. The privies are constructed on the surface, and as the soil is quite porous there is danger of contamination of the water supply. The natural drainage is good, there being a surface slope both toward the east and the west. The general sanitary condition of the town is not the best, and there yet remains much work to be done. There is a town board of health, and they will endeavor to procure cleanliness. The population is about 1,000, chiefly whites.

CHARLESTON AND GEORGETOWN, S. C.—Inspector Dr. A. N. Bell reports as follows on the quarantine of these ports, August 15:

Charleston.—This establishment consists of, first, health officer's residence, on James Island, near Fort Johnson, which is in good condition and well situated; second, hospital buildings, on Cummings' Point, Morris Island, two structures one for yellow fever, equal to twenty beds, and one for small-pox, half as large. Both are in good condition, well situated, and in case of necessity the accommodations could be enlarged by awnings from the structures or by tents. The landing or wharf at Fort Johnson, leading to the health officer's residence, and the house itself are exceedingly dilapidated.

A short distance from the wharf is an old wooden building which might be utilized at small expense for a warehouse. It is large enough for an ordinary cargo, and I advise that it be appropriated and adapted to the purpose. This property, I am informed, belongs to the United States and was for a time since the war occupied by the Light-House Board; but it has recently been abandoned by that department. I recommend that it be appropriated to quarantine purposes, for which it is admirably situated, and be put in proper condition.

The anchorage for infected vessels off Fort Johnson is sufficiently distant from the main channel and from the shore to secure safety and police. The establishment is well conducted, and with the addition and the repairs of warehouse and wharf, as above recommended, it would be complete.

Georgetown.—This is a place of considerable commerce, having had during the months of July, August, September, and October of

last year no less than forty-four arrivals of vessels of all classes, besides steamboats at least twice a week from Charleston. There was but one vessel during the season from an unhealthy West Indian port. She was detained for a short time. The quarantine establishment at present is in charge of a health officer, who is required, on a salary of \$400 and allowances of \$100, to provide whatever may be necessary for the exercise of his functions. The health officer's residence and the boat-landing are at present at a little village of eight or ten families on South Island. I advised that he should at once change his residence to the equally convenient and uninhabited North Island, near the opposite shore; also that he should there select proper places for the erection of tents for both the sick and the well, and a good landing-place and site for a shed in the event of arrival of an infected cargo. To this he readily consented.

A more vulnerable place than Georgetown, if an infected vessel should go to the wharves, would be hard to find. A nominal board of health has been recently created there, but the only information I could obtain in regard to vital statistics was from a clergyman's record of burials, which gives not less than 35 deaths annually to 1,000 of the population among the best cared-for people.

LOCAL QUARANTINE LAWS.

PORT OF WILMINGTON, S. C.

OFFICE OF QUARANTINE PHYSICIAN,
Smithville, S. C., April 1, 1879.

The following quarantine regulations will be enforced for the port of Wilmington, from this date, and the penalties of \$200 for every violation thereof strictly enforced. Pilots violating the same are liable to the loss of their branch:

1. Pilots will be notified from time to time of the ports from which vessels are subject to quarantine, and all vessels from such ports must come to anchor at the quarantine station, and not depart thence without written permission from the quarantine physician. Pilots may obtain full particulars as to their duty with reference to vessels subject to quarantine, by inquiring at the office of the quarantine physician.

2. Universal cleanliness must be preserved on board all vessels detained in quarantine; the fore-castle, steerage, and cabin must be scrubbed; all foul wearing apparel and bed clothing of officers, passengers, and seamen must be washed and aired, and all infected articles destroyed and disinfection practiced as directed by the quarantine physician.

3. The bilge water must be pumped out twice a day, and water from alongside put in until the water pumped out shall be clear and free from any offensive smell; and wind sails must be kept up in each bawley, and trimmed to the wind whenever weather permits.

4. Commanders of vessels are accountable for all irregularities committed on board their respective vessels, and for the conduct of such of their people as they may send on shore by permission of the quarantine officer, and if any person shall leave a vessel in quarantine, or go on board of such vessel without the written permission of the quarantine officer, he shall, on conviction, suffer punishment as by law provided; and all persons belonging to a vessel in quarantine are strictly forbidden to take on board any person who did not arrive in such vessel, without a regular permit from the quarantine officer.

5. All communication between vessels in quarantine is expressly prohibited, and no boat or craft is permitted to go alongside a vessel in quarantine except the master thereof have a written permission from the quarantine officer.

6. Provisions and other necessities intended to be sent on board vessels at quarantine must follow the same rules and regulations which apply to other communications with the vessels, and all arrangements for discharging and taking in cargo must be made with the sanction of the quarantine officer.

7. Colors must be worn and a light must be hoisted at night so long as the vessel is detained at quarantine.

8. All vessels upon which any case of infectious disease has occurred during their passage, or upon which any person has died; all vessels from ports known to be infected with small-pox, yellow fever, cholera, or plague, shall not be permitted to approach Wilmington nearer than the quarantine station.

W. G. CURTIS, M. D.,
Quarantine Physician of Wilmington.
J. C. WALKER, M. D.,
THOS. F. WOOD, M. D.,
Consulting Physicians.

OFFICE SUPERINTENDENT OF HEALTH,
City of Wilmington, S. C., April 1, 1879.

Any and all vessels arriving in the Cape Fear River from the West India Islands, South America, or any infected ports, whether they have had sickness on board or not, will not be allowed to approach any nearer this city than the quarantine station; nor will they be allowed to discharge or take in cargoes, or have any communication with the city whatever, until after the 1st November.

J. C. WALKER, M. D.,
Superintendent Health, City of Wilmington, S. C.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, SEPTEMBER 6, 1879.

[No. 10.]

CIRCULAR No. 8.*

INSTRUCTIONS FOR DISINFECTION PREPARED FOR THE NATIONAL BOARD OF HEALTH, 1879.

Disinfection is the destruction of the poisons of infections and contagious diseases.

Deodorizers, or substances which destroy smells, are not necessarily disinfectants, and disinfectants do not necessarily have an odor.

Disinfection cannot compensate for want of cleanliness nor of ventilation.

I.—DISINFECTANTS TO BE EMPLOYED.

1. Roll-sulphur (brimstone) for fumigation.
2. Sulphate of iron (copperas) dissolved in water in the proportion of one and a half pounds to the gallon; for soil, sewers, &c.
3. Sulphate of zinc and common salt, dissolved together in water in the proportions of four ounces sulphate and two ounces salt to the gallon; for clothing, bed-linen, &c.

NOTE.—Carbolic acid is not included in the above list for the following reasons: It is very difficult to determine the quality of the commercial article, and the purchaser can never be certain of securing it of proper strength; it is expensive, when of good quality, and experience has shown that it must be employed in comparatively large quantities to be of any use; it is liable by its strong odor to give a false sense of security.

II.—HOW TO USE DISINFECTANTS.

1. *In the sick-room.*—The most available agents are fresh air and cleanliness. The clothing, towels, bed-linen, &c., should, on removal from the patient, and before they are taken from the room, be placed in a pail or tub of the zinc solution, boiling-hot if possible.

All discharges should either be received in vessels containing copperas solution, or, when this is impracticable, should be immediately covered with copperas solution. All vessels used about the patient should be cleansed with the same solution.

Unnecessary furniture—especially that which is stuffed—carpets and hangings, should, when possible, be removed from the room at the outset; otherwise, they should remain for subsequent fumigation and treatment.

2. *Fumigation with sulphur* is the only practicable method for disinfecting the house. For this purpose the rooms to be disinfected must be vacated. Heavy clothing, blankets, bedding, and other articles which cannot be treated with zinc solution, should be opened and exposed during fumigation, as directed below. Close the rooms as tightly as possible, place the sulphur in iron pans supported upon bricks placed in wash-tubs containing a little water, set it on fire by hot coals or with the aid of a spoonful of alcohol, and allow the room to remain closed for twenty-four hours. For a room about ten feet square, at least two pounds of sulphur should be used; for larger rooms, proportionally increased quantities.

3. *Premises.*—Cellars, yards, stables, gutters, privies, cesspools, water-closets, drains, sewers, &c., should be frequently and liberally treated with copperas solution. The copperas solution is easily prepared by hanging a basket containing about sixty pounds of copperas in a barrel of water.

4. *Body and bed clothing, &c.*—It is best to burn all articles which have been in contact with persons sick with contagious or infectious diseases. Articles too valuable to be destroyed should be treated as follows:

(a.) Cotton, linen, flannels, blankets, &c., should be treated with the boiling-hot zinc solution; introduce piece by piece; secure thorough wetting, and boil for at least half an hour.

(b.) Heavy woolen clothing, silks, furs, stuffed bed-covers, beds, and other articles which cannot be treated with the zinc solution, should

be hung in the room during fumigation, their surfaces thoroughly exposed, and pockets turned inside out. Afterward they should be hung in the open air, beaten, and shaken. Pillows, beds, stuffed mattresses, upholstered furniture, &c., should be cut open, the contents spread out and thoroughly fumigated. Carpets are best fumigated on the floor, but should afterward be removed to the open air and thoroughly beaten.

5. *Corpses* should be thoroughly washed with a zinc solution of double strength; should then be wrapped in a sheet wet with the zinc solution, and buried at once. Metallic, metal-lined, or air-tight coffins should be used when possible, certainly when the body is to be transported for any considerable distance.

GEORGE F. BARKER, M. D., University of Pennsylvania, Philadelphia; C. F. CHANDLER, M. D., College of Physicians and Surgeons, Health Department, New York; HENRY DRAPER, M. D., University of the City of New York; EDWARD G. JANEWAY, M. D., Bellevue Medical College, Health Department, New York; IRA REMSEN, M. D., Johns Hopkins University, Baltimore, Md.; S. O. VANDER POEL, M. D., Albany Medical College, Albany, N. Y., Health Department, New York, Health Officer of the Port of New York.

* This circular is repointed to correct errors which were overlooked last week.

PORT SANITATION.

The revelation of the extremely filthy condition of docks, wharves, piers, and their surroundings in the ports which have been inspected is suggestive of sources of danger to the public health which imperatively demand the care of municipal authorities. The shipping portion of the river front of any town is necessarily liable to be the point where filth most readily accumulates. The docks and wharves are always located on the lowest levels, often on marshy grounds which have been filled in with city refuse. The piers are made of wood, and rest upon timbers driven deeply into the mud. These piles, arranged in rows and extending an hundred feet or more into the channel, not only totally obstruct the natural current of the water by which the shores were originally flushed, but permanently arrest the floating filth and cause its deposit within the meshes which they form. Again it will be found that the outflow of the principal sewers naturally seeks these low levels, and that in their construction they stop short at the foot of the piers and discharge their contents above low water mark. It results from this arrangement that the sewage of the town is incessantly added to this vast accumulation of decomposing organic matter, creating a compound highly charged with elements destructive of animal life. In the ebb and flow of the tides this immense stratum of fermenting filth is alternately exposed to the concentrated rays of the sun and again covered with water, and is always sufficiently agitated to liberate the imprisoned gases.

There is scarcely an exception to this description of the commercial districts of cities in the United States, whether they be sea or river ports. The effect of such large areas

of filth, incessantly generating and exhaling foul and destructive gases, upon the health of port cities, is but too well known. It is along these water-fronts that the fatal fevers of the town have their greatest frequency and intensity, and that diarrhoeal diseases annually appear and prove most fatal. It is here also that foreign pestilences, like cholera and yellow fever, first obtain a secure foothold upon our shores and thence spread with such fatal energy. Indeed the very frequent outbreak of these diseases among the crews of vessels lying at filthy wharves has led many able investigators to believe that they had their origin in the putrid waters of the dock which had penetrated the bilge, or in the decaying wood of the docks.

The improvements necessary to secure a good sanitary condition of ports are within the means of every municipality. The important features of the necessary works are: 1. Clean sea or river walls of stone or wood, which will be so thoroughly flushed by the tides or currents that no refuse can lodge or be deposited; 2. The extension of sewers so that they will discharge their contents below low-water mark or into the most rapid part of the current.

The general government has taken the initial step to prevent the introduction of contagious and infectious diseases into this country by inaugurating a system of inspection and cleansing which will secure the best sanitary condition of vessels, their cargoes, crews, and passengers, which sail from any foreign port or place to any port or place in the United States. But what will all these efforts to secure clean and wholesome vessels from foreign ports avail (as a preventive measure) if on reaching our ports they are to be at once submerged at the docks in seething filth and enveloped and penetrated by the most deadly gases? Certainly but a title of the great reform will have been accomplished if it must be limited to insuring cleanliness of merchant vessels which come from foreign ports. These vessels must be received into harbors free from filth and at docks where they will be bathed by pure water, before they will cease to be carriers of disease and even generators of contagion.

A NEW QUARANTINE STATION.

Under the provisions of section 3 of the act to prevent the introduction of contagious and infectious diseases into the United States, approved June 2, 1879, a quarantine has been established at the Delaware Breakwater, in the State of Delaware. Section 3 of that act provides as follows:

At such ports and places within the United States as have no quarantine regulations under State authority where such regulations are, in the opinion of the National Board of Health, necessary to prevent the introduction of contagious or infectious diseases into the United States from foreign countries, or into one State from another, * * * the National Board of Health shall report the facts to the President of the United States, who shall, if in his judgment it is necessary and proper, order said Board of Health to make such additional rules and regulations as are necessary to prevent the introduction of such diseases into the United States from foreign countries, or into one State from another, which, when so made and approved by the President, shall be promulgated by the National Board of Health and enforced by the sanitary authorities of the States; where the State authorities shall fail or refuse to enforce said rules and

regulations the President may detail an officer or appoint a proper person for that purpose.

The following official action has been taken by the National Board of Health, and approved by the President:

Whereas, in consequence of a communication by the board of health of the city of Philadelphia to the collector of customs at that port on the 20th of July, which was referred to this Board by the Secretary of the Treasury on the 3d instant, it is the opinion of this Board that to prevent the introduction of contagious or infectious diseases into places upon the Delaware and elsewhere within the United States from infected ports and places, it is necessary that quarantine regulations should be enforced at or near the Delaware Breakwater, within the State of Delaware; and

Whereas no regulations applicable to this case now exist: and

Whereas, also, upon a report of such facts having been made by this Board to the President of the United States on the 21st instant, he has ordered it to make the necessary rules and regulations:

Now, therefore, in accordance with the provisions of section 3 of the act to prevent the introduction of contagious or infectious diseases into the United States, approved June 2, 1879, it is ordered that—

1. There shall be established at the mouth of the Delaware River, in the vicinity of the breakwater, or at a point to be approved by the National Board of Health, a quarantine station of observation for the purpose of inspecting vessels entering the Delaware River, which shall be known as the Delaware quarantine station. This station shall be under the direction of an officer who shall be a skilled physician, and shall be entitled the quarantine inspector. Every vessel arriving from a foreign port, or from ports of the United States declared by the National Board of Health to be infected, shall immediately proceed to the boarding station, and shall be visited by the inspecting officer between sunrise and sunset as soon as possible after such arrival. Such officer shall examine the bill of health and shall inspect the vessel, and require of the captain or master answers in duplicate, under oath, to the following questions.

For this purpose the quarantine officer is authorized to administer oaths.

City and port of ———.

Quarantine questions put to the master of ——— (name of vessel) ———, ——— (date).

1. From whence is the vessel you command?
2. How many days have you been on the passage?
3. Have you touched anywhere?
4. If so, where?
5. At what date?
6. For how long?
7. Did you take in cargo or passengers there?
8. Have you any bills of health? If so, produce them.
9. Have you communicated with any vessels in the course of your cruise or passage?
10. If so, at what date?
11. Name of vessel?
12. From what ports were they?
13. Was any sickness existing on such vessels?
14. If so, what?
15. During the course of cruise or passage what cases of disease have occurred on board?
16. At what dates?
17. Has any death taken place on board your vessel since you left the last port?
18. If so, at what date and from what cause, to the best of your knowledge?
19. Has yellow fever ever existed on the ship? If so, when?
20. What is the number of officers, crew, and passengers?
21. Are the officers and crew the same as when you started?
22. How many passengers in—
First cabin?
Second cabin?
Steerage?
23. Have you any reason to think that yellow fever, cholera, or plague existed in the vicinity of the port from whence you sailed, or

near any others at which you have touched, or on any vessel with which you have communicated during the present voyage?

24. What is your cargo?

25. To whom consigned?

26. What is the present sanitary condition of the vessel, cargo, crew, and passengers, to the best of your knowledge and belief?

27. Have you a medical officer? Give his name and produce his report.

(Signature of master or captain.)

Sworn and subscribed to before me, an officer empowered to administer oaths, &c.

(Official title.)

(Quarantine station.)

18—

This vessel has permission to proceed (or is detained for observation).

Health Officer.

(Duplicate.) (Here insert local regulations.)

2. In case the condition of the vessel is satisfactory, and neither yellow fever nor plague (nor small-pox or typhus fever in epidemic form) existed at the port from which she sailed, or at any intermediate port at which she may have touched, or on any vessel with which she has come in contact during the voyage, the inspecting officer shall give a certificate to that effect and the vessel shall be allowed to proceed.

3. In case yellow fever, cholera, or plague, or small-pox, or typhus fever prevailed in epidemic form at the port from which she sailed, or at any port at which she touched during the voyage, or on any vessel with which she has come in contact during the voyage, the inspecting officer shall promptly notify the health authorities and the collector of the port to which the vessel is bound of the arrival of such vessel and of her condition, and shall take measures to have the said vessel escorted under proper guard to within the quarantine limits of the port to which she is destined, where she shall be turned over to the proper authorities. No person shall be allowed to leave such vessel until it has been delivered to the proper authorities within the quarantine limits of the port to which it is destined, and if any person shall enter the vessel he shall be compelled to remain on the same until it has been so delivered.

The quarantine inspector shall make such reports of his operations to the National Board of Health as may from time to time be prescribed by that body.

J. L. CABELL,

President National Board Health.

T. J. TURNER,

Secretary National Board Health.

Approved, August 22, 1879.

R. B. HAYES.

THE YELLOW FEVER.

The outlook from the yellow fever districts at the close of the present week is even more hopeful than at the close of the last week. The fever is still chiefly confined to Memphis and to a limited district of New Orleans, though we have advanced one week into the most dangerous month of the season. An examination of the table below places in strong light the outburst and rapid spread of the pestilence during the last weeks of August and the first week of September, 1878, and its present control and tendency to die out at the points of first infection. Up to the present date there have been but 20 reported cases in New Orleans and 873 cases in Memphis, against 4,670 in New Orleans, and an untold number at Memphis, in 1878, the deaths alone for that week being 529.

The work of cleansing and isolation is being even more

vigorously pressed forward than previously. A picket guard has been established around Memphis to prevent the entrance of unacclimated persons and the exit of infected matters. Squads of laborers, directed by skilled persons, are devoted to special branches of cleansing and disinfection; every sick person is promptly isolated, and depopulation is encouraged by every possible inducement and urged by every allowable compulsory measure. In New Orleans the infected district is completely isolated and placed in charge of a member of the State board. This district is divided into seven subdistricts, each one of which is in charge of a sanitary inspector who has the aid of a sanitary policeman, one light wagon and driver, and four laborers. The work of cleaning is thorough and systematic. The squad proceeds from house to house and cleanse, disinfect, whitewash, flush gutters, open drains, purify closed areas, &c. Probably there never was a time when the value of cleansing and disinfection as a preventive measure against yellow fever was put to such a crucial test.

The following compilation of returns of the statistics of yellow fever presents its progress at the present date with the same period last year:

1879.

Memphis, Tenn.—Total cases to date, 873; deaths, 235.

New Orleans, La.—Total cases to date, 18; deaths, 5.

Mississippi City, Miss.—Total cases, 2; deaths, 3.

1878.

New Orleans, La.—For the week there were 1,732 cases and 526 deaths. Total cases, 4,600; deaths, 1,305. In last 24 hours, 280 new cases and 61 deaths.

Morgan City, La.—For the week, 11 cases and 2 deaths; total, 22 cases and 6 deaths.

Licksburg, Miss.—For the week there were 1-1 deaths; 11 in last 24 hours. Total cases, about 2,500; deaths, 366.

Grenada, Miss.—For the week, 96 new cases and 19 deaths.

Canton, Miss.—For the two weeks, 172 cases and 22 deaths.

Ocean Springs, Miss.—For the week, 15 cases and 5 deaths.

Holly Springs, Miss.—First case August 27. Total cases, September 6, 100; deaths, 25. All of the members of the board of health sick.

Memphis, Tenn.—For the week, 529 deaths; number of cases cannot be obtained.

Hickman, Ky.—Total cases, 60; deaths, 21.

Louisville, Ky.—For the week, 25 new cases and 7 deaths; all refugees and river boatmen.

AID FOR MEMPHIS.—Gov. A. S. Marks, of Tennessee, issued the following proclamation to the people of Tennessee, August 27:

The plague still afflicts Memphis. Her authorities have employed every agency to arrest its progress without avail. The employments of her citizens are entirely suspended. They have no opportunity to supply themselves with the necessities of life. Her authorities have used the utmost economy in the application of the resources at their control. These resources are nearly exhausted. Want threatens to unite with pestilence in afflicting Memphis. The State government, assuming that local calamity would be relieved by private charity, has withheld the power to afford relief out of the public treasury. The executive authorities of the State would be justified in assuming such a responsibility only as a last resort. While the citizens of Memphis are suffering under uncommon affliction, the people of the State at large are blessed with unusual health and extraordinary abundance. The claims of humanity and the obligations of a common citizenship make an appeal to the charity of the people of Tennessee in behalf of Memphis which cannot be disregarded. Ministers of religion, the mayors of cities and towns, the officers of charitable bodies, and the press of the State are requested to call attention to the melancholy situation and pressing want of Memphis.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of five cents per copy. Notice of at least one week should be given when a large number is required.

INSPECTION (QUARANTINE) ON THE MEMPHIS AND CHARLESTON RAILROAD.—Inspector E. M. Wight gives the following account of the methods of inspection on this railroad:

During the seven days last passed there have been but seventeen departures (persons) from Memphis, all of which have been over this line of road. No other road carries people out from Memphis now. Dr. H. L. Willeford, a State board inspector, has charge of all trains outward, from the first transfer below Bartlett and about nine miles out from the city, and goes with the train to Brownsville, where he meets the down train and returns with it. At Brownsville, Dr. W. W. Taylor, another State board inspector, boards the outward bound train and continues with it until it reaches Humboldt, ten miles past the second transfer station, Humboldt, and returns by down train to Brownsville. Thus every train, both ways, has an inspector on board over the whole route until both transfers are covered. All the passengers from Memphis are kept in a separate, well-ventilated car—not upholstered—until their arrival at Humboldt, the second transfer, a distance of eighty-one miles.

No persons are admitted to the trains without proper certificates for person and baggage. The inspectors, at my suggestion, have now commenced keeping a record by name, date, place of departure, and destination of all persons entering the trains, whether local or through

passengers. All the inspectors seemed to comprehend the nature of their work and the value of air in the cars while *en route*. They looked well to the mails and all pieces of baggage, and in all cases, so far as I could learn, seemed to exercise good judgment and fair discretion.

I have now spent several days here, at the transfers, and along this road, and I can say, in a line, that the work is *not* well done. Circumstances may arise any hour which will necessitate some changes in the system or suggest some important improvements, but the inspections cannot be conducted more nearly in accordance with the rules than they are now. If this management is kept up as good as it is now, it can be only among the remote possibilities that harm can result from the few people and the "things" now going out of Memphis.

THE BOARD OF HEALTH, of Charleston, S. C., adopted the rules and regulations recommended by the National Board of Health, August 29.

HELENA, ARK.—Dr. W. W. McAlpine, secretary board of health, writes August 30:

Our town is in excellent sanitary condition and has been unusually healthy during the summer. For the first two weeks of June there was not a case of sickness or death reported.

Report of mortality in cities of the United States, for the week ending August 23, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

[Table reprinted this week, with addition of places too late for last week's BULLETIN. Reports hereafter kept over one week longer to give time for all to come in.]

Places.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Stro-ke.	Typhoid and typhoid fevers.	Whooping cough.	Yellow fever.
Atlanta, Ga.	39,000	11	23	30.7		7												3		
Austin, Tex.	15,500		4	13.4	1															
Baltimore, Md.	400,000	78	154	20.0	2	19	36	3							6			2	5	
Boston, Mass.	375,000	70	151	20.0		24	44	4										4		
Brooklyn, N. Y.	12,000	4	6	26.6																
Brooklyn, N. Y.	564,118	137	246	22.7		13							1		9			4	2	
Richmond, Va.	16,500	4	6	19.0		1														
Cambridge, Mass.	50,000		11	15.0		4												1		
Charleston, S. C.	57,000	16	22	20.1		2														
Chattanooga, Tenn.	12,000	5	6	26.0		3														
Chicago, Ill.	537,424	151	253	24.5	3	15	32	15					3	1	11			10	2	
Cincinnati, Ohio	294,000	45	117	15.0		15	6								8			1		
Cleveland, Ohio	175,000	31	51	15.2		2	10	4			3							2	3	
Concord, N. H.	11,000	4	11	14.9		2		1										1		
Dayton, Ohio	39,000		3	17.3																
District of Columbia	100,000	10	21	25.0		16														
Elizabethtown, Pa.	30,000	10	17	29.5		1	6													
Evansville, Ind.	37,500	7	16	22.2	2	1					2				1			1		
Hudson County, New Jersey	199,000	36	63	16.5		7	13	3							1			1		
Houston, Tex.	30,000	3	5	8.7		3														
Indianapolis, Ind.	97,000	23	33	17.7		3														
Jacksonville, Fla.	10,000	3	5	26.0																
Kokuk, Iowa	15,000		1	13.9		1														
Lawrence, Mass.	40,000	10	16	23.0		1														
Little Rock, Ark.	20,000	10	13			2	3													
Louisville, Ky.	175,000	20	40	11.9	1	3	4	1							1			2		
Lowell, Mass.	52,000	7	19	13.0		2	5													
Madison, Wis.	121,000	27	44	15.3		17	1													
Minneapolis, Minn.	52,000	10	15	15.0		4	5													
Mobile, Ala.	40,000	10	19	24.7		2		1					1							
Nashville, Tenn.	27,057	5	10	16.6		3														
New Bedford, Mass.	25,000	10	25	36.0		3														
Newburgh, N. Y.	17,568		6	17.7		1		1												
Newburyport, Mass.	13,000	2	8	30.2		1														
New Haven, Conn.	68,000		14	15.0		2														
New Orleans, La.	210,000	17	47	21.6		14	3	1					1		1			1		
New York, N. Y.	1,097,563	253	484	22.9	7	68	122	6	1		23		6	7	9	1		5	5	1
Norfolk, Va.	24,000	3	5	10.9		1														
Omaha, Neb.	30,000		1	13.3		1														
Philadelphia, Pa.	391,350	137	291	16.9	1	39	53	3	1									10	2	
Pittsburgh, Pa.	115,000	49	75	26.9		4	13	11												
Providence, R. I.	101,500	10	35	18.0		6	1	4												
Quincy, Ill.	35,000	2	9	12.2		1														
Reading, Pa.	40,109	5	12	15.6		3														
Richmond, Va.	80,000	24	39	25.4		3	10													
Richmond, Ind.	11,000		5	18.6		1														
San Francisco, Cal.	300,000	19	27	13.4		1		3					1		1					
Savannah, Ga.	32,666	7	18	28.7	1	3	2	1												
Shreveport, La.	7,000	1	4	29.8																
St. Louis, Mo.	500,000	62	117	12.3	1	11	19	1												
St. Paul, Minn.	21,000		11	14.2		1														
Union, N. Y.	35,000	6	10	11.9		1	3													
Vicksburg, Miss.	15,000	2	7	23.3		2														
Wilmington, Va.	35,000		1	10.8		1	4	5												
Wilmington, Del.	44,913	10	25	29.6		2														
Yonkers, N. Y.	19,000	5	9	23.7		2	3													
Totals	7,531,326	1,476	2,876	19.9	26	312	520	82	4	3	30	44	13	10	63	1		74	39	1

Report of mortality in cities of the United States for the week ending August 23, 1879—Continued.

CITIES IN WHICH BURIAL PERMITS ARE NOT KNOWN TO BE REQUIRED.

[Table reprinted this week with addition of places too late for last week's BULLETIN. Reports hereafter kept over one week longer, to give time for all to come in.]

Places.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrhœal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Strokes.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Allegheny, Pa.	75,000	15	32	22.2	.....	2	6	6	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Augusta, Ga.*	26,574	9	17	32.6	.....	1	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Aurora, Ill.	14,550	2	4	11.4	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bath, Me.	10,000	.....	7	36.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Battle Creek, Mich.	7,500	1	3	20.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Binghamton, N. Y.	18,000	5	11	31.8	.....	2	5	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bridgewater, Mass.	3,000	1	3	40.1	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Columbus, Ga.	10,000	2	4	30.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dubuque, Iowa	30,000	1	3	5.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fall River, Mass.	48,500	.....	24	25.8	.....	4	1	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....
Jackson, Miss.	5,000	1	3	31.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kansas City, Mo.	64,000	9	17	32.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Louisiana, Mo.	5,000	2	3	31.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milford, Mass.	10,000	.....	3	15.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mount Pleasant, Iowa	5,000	.....	3	31.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peoria, Ill.	40,000	.....	7	19.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pittsfield, Mass.	.....	(5) 13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Poughkeepsie, N. Y.	20,000	3	8	20.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rochester, N. Y.	90,000	9	31	17.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rome, Ga.	5,000	1	4	16.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sacramento, Cal.	25,000	.....	8	16.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salt Lake City, Utah	25,000	11	18	37.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sing Sing, N. Y.	5,000	1	9	93.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winona, Minn.	11,500	2	4	17.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Youngstown, Ohio	17,000	2	3	9.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	509,110	79	242	30.9	.....	30	50	11	1	1	9	15	1	2	1	.....	.....	12	.....	.....

* Augusta has 15,246 white population, 11,628 colored; deaths, 6 white, 11 colored. Rate per 1,000, white, 20.5; colored, 33.3. Charleston has 25,000 white, 32,000 colored; deaths, 7 white, 15 colored. Rate per 1,000, white, 14.6; colored, 24.4. Chattanooga has 8,000 white, 1,000 colored; deaths, 2 white, 1 colored. Rate per 1,000, white, 13.0; colored, 52.0. District of Columbia has 406,000 white, 34,000 colored; deaths, 35 white, 43 colored. Rate per 1,000, white, 25.5; colored, 41.5. Nashville has 17,565 white, 2,500 colored; deaths, 9 white, 11 colored. Rate per 1,000, white, 36.7; colored, 60.3. New Orleans has 13,000 white, 5,000 colored; deaths, 28 white, 29 colored. Rate per 1,000, white, 9.4; colored, 53.9. Norfolk has 11,057 white, 9,913 colored; deaths, 3 white, 2 colored. Rate per 1,000, white, 11.1; colored, 10.5. Richmond has 46,000 white, 34,000 colored; deaths, 15 white, 21 colored. Rate per 1,000, white, 17.0; colored, 36.8. Savannah has 17,493 white, 15,163 colored; deaths, 3 white, 15 colored. Rate per 1,000, white, 8.9; colored, 54.6.

The following places report not more than one death from any of the diseases named in the table, for the week ending August 23:

Ann Arbor, Mich., population 7,520; 1 diarrhœa. Belfast, Me., 5,278; 2 deaths; pneumonia 1, drowned 1. Brunswick, Ga., 3,000; 1 consumption. Burlington, Iowa, 30,000; 1 heart disease. Cedar Keys, Fla., 1,200; diarrhœa 1, under 5 years. Decatur, Miss., 1,000; premature birth 1. Edgartown, Mass., 1,700; 1 death; consumption 1. Fayette, Miss., 200; apoplexy 1. Flint, Mich., 1,000; 2 deaths; consumption 1; dropsy 1. Franklin, Ind., 1,000; diphtheria 1. Galipolis, Ohio, 5,000; 2 deaths; consumption 1. Greenwood, Miss., 400; malarial fever 1. Helena, Mont., 3,500; pneumonia 1. Jackson, Tenn., 7,500; 2 deaths; cholera infantum 1; dropsy 1. Marblehead, Mass., 7,500; whooping-cough 1. Monmouth, Ill., 6,000; scarola 1. Nantucket, Mass., 3,000; cancer 1. Niles, Mich., 1,630; consumption 1. Pass Christian, Miss., 4,000; cholera infantum 1. Pensacola, Fla., 8,500; diarrhœa 1. Plymouth, Mass., 6,331; 2 deaths; diarrhœa 1. Port Huron, Mich., 2,200; consumption 1. Quarantine Hospital, New York; 3 cases of yellow fever, 1 death. Ripley, Miss., 1,000; 1 death, no cause given. Tuscaloosa, Ala., 1,000; 2 deaths, under 5 years; convulsions 1; diarrhœa 1. Verona, Miss., 900; cerebro-spinal fever 1.

The following places report no deaths for the week ending August 23:

Abbeville, Miss., population 300. Benton County, Miss., 11,000. Carrollton, Miss., 600. Columbus, Miss., 5,300. Dixon, Cal., 1,200. Franklin, Tenn., 1,000. Holden, Mo., 3,000. Hudson, N. Y., 7,781. Indianola, Tex., 300. Lexington, Mo., 1,000. Madison, Ind., 12,000. Morton, Miss., 200. Ocean Springs, Miss., 1,500. Okolona, Miss., 3,000. Painesville, Ohio, 5,000. Senatobia, Miss., 1,500. Starkville, Miss., 1,163. Tampa, Fla., 1,000. Vallejo, Cal., 5,000.

SANITARY CONDITION OF MOBILE.—Dr. George A. Ketcham, president of the board of health of Mobile, writes in behalf of that board, fully indorsing the communication of Dr. Seales, the health officer, in reply to the statements of Inspector J. B. Palmer.

HEALTH OF THE NAVY.—The following statistical returns, made to the Navy Department, exhibit the aggregate sick report of the several squadrons for the second quarter of 1879:

United States South Atlantic squadron.—Total number of men, 561; total sick days, 1,131; daily average number of sick, 12.7; total cases treated, 120.

United States European squadron.—Total number of men, 1,161; total sick days, 5,121; daily average number of sick, 56.7; total cases treated, 50; deaths, 2—1 enteric fever, 1 suicide.

United States Asiatic squadron.—Total number of men, 1,091; total sick days, 2,501; total cases treated, 257; daily average number of sick, 29.7; deaths, 2 from drowning.

DR. STERNBERG writes, August 15: "Exposure of animals (two dogs, two cats, one monkey, two rabbits, three Guinea pigs, two geese, and three chickens) upon the infected bark *John Welsh, jr.*, for two days was not followed by any noticeable symptoms except in the case of one dog. This animal returned from the ship in apparent good health, but on the following day a sharp attack of fever was developed, which continued two days; the temperature reached 107°, and there was active delirium followed by coma. The dog recovered, and more experiments must be made before an opinion can be given as to whether this attack of fever resulted from exposure to the yellow-fever poison."

NAVY, September 4.—Consul Hall telegraphs British bark *Greenock*, for New York, and *Kurachi*, for Philadelphia had sickness on board in harbor.

THE ZINC AND IRON DISINFECTANT OF NEW ORLEANS.—Dr. C. B. White, sanitary director of the New Orleans Auxiliary Sanitary Association, writes as follows:

I offer the following working formula for the preparation of the (locally known) zinc-iron disinfectant used by this association for disinfection of privy vaults, yards, gutters, drains, &c., and ill-smelling portions of yards, &c.:

Formula 3 (Fe-Cl) + Zn-Cl + Na-Cl. Seven hundred pounds of iron are dissolved in 3,800 pounds of hydrochloric acid at 22° B., and 3,500 pounds of rain-water. When the iron is dissolved add 233 pounds of zinc. When everything is dissolved decant the settled green liquor and concentrate in lead pan to 35° B.; while still boiling add 1,065 pounds nitrate of soda, 653 pounds of hydrochloric acid 22° B. When the conversion of chloride into per chloride of iron is completed, let it cool, draw off, and it is ready for use.

If the solution is not to be used immediately, there should be a very slight excess of hydrochloric acid in it, as preservative. The acid is diluted to avoid the excessively energetic chemical action which occurs with acid of high specific gravity.

HAVANA COMMISSION.

Dr. Chaillé, chairman of the commission, writes as follows August 21:

During the week ending August 16, the deaths by yellow fever were 100; by all diseases, 253. The numbers for the preceding week were, respectively, 93 and 245. In my report of August 7 attention was called to certain facts illustrative of the value and of the danger of the commercial intercourse between Cuba and the United States, and in further illustration of the same subject I submit the following table of the total number of vessels (American and foreign) which entered each of the various ports of the United States from all of the ports of Cuba during the year ending June 30, 1879:

Name of port.	Number of vessels.		
	American.	Foreign.	Total.
New York	701	209	910
Key West	294	31	325
Philadelphia	194	37	231
Boston and Charlestown	113	52	165
New Orleans	28	100	128
Baltimore	65	54	119
Pensacola	52	52	104
Charleston	13	63	76
Savannah	7	48	55
Pearl River, Miss.	45	17	62
Mobile	17	17	34
Salina, Tex.	31	—	31
Washington, D. C.	2	22	24
Brunswick	7	13	20
Saint Mary's	—	16	16
Pennamint	3	10	13
Portland and Falmouth	9	4	13
Galveston	3	9	12
Treche, La.	10	—	10
Apalachicola	4	1	5
Saint Mark's	4	—	4
Saint John's	2	1	3
Brazos	1	—	1
Newport	1	—	1
Norfolk and Portsmouth	1	—	1
Stonington	1	—	1
Totals	1,492	744	2,236

While the above table no doubt faithfully represents the varying amounts of the commerce with the different ports of the United States, it nevertheless represents it at less than the average annual amount, since the commerce of 1877 and 1878 is reported less than the usual annual average. It is also to be remembered that the above table states the number of all the vessels clearing from all the ports of Cuba, and that the fifteen ports are not all equally dangerous; and, further, that only a comparatively very small proportion of all the vessels sail during the five months from June to October. I have been assured that on August 18 there were but four vessels in the harbor of Matanzas; that at this season several days often pass *without one*; and that while at both Matanzas and Cardenas there are generally but few vessels in July, there are always very few in August, September, and October. These facts do not indicate that a sanitary inspector at Matanzas is likely to find much useful work to do.

My attention has been called to an unusual sanitary evil in Havana. Householders are forbidden by police regulations, except while it is raining, to pour the refuse water of residences into the streets; hence such houses, except the few connected with the sewers, have a separate reservoir adjacent to the *lavabios* for the reception of the dirty water from the laundry, the kitchen, &c. This filthy water under-

goes a decomposition, which renders it, as is said, more offensive than even the contents of the privies. Though both of these may have their sides walled, yet the bottoms are usually of dirt only, and permit a widespread soil-pollution by imbibition into the very porous earth of this place.

During the week I have inspected Jesus del Monte (the most elevated suburb of Havana), and the neighboring towns of Mariana and Guanabacoa. All three of these places are reputed to be exempt from yellow fever. This is not true. They however do suffer apparently very much less than this city. All three are elevated, varying in altitude from 90 to 175 feet above the sea. Their drainage is by nature perfect; they do not suffer from overcrowding, and have comparatively few macerated residents. These are the only four notable differences when compared with Havana.

ABSTRACTS FROM CONSULAR REPORTS.

PORT AU PRINCE.—Consul J. M. Langston writes to the State Department, July 17, as follows:

On receiving your dispatch, dated June 9 last, I advised August Ahrendts, esp., consular agent at Miragoâne, of the complaint which has been made to the department with regard to his issuing the bill of health in favor of the *Eva N. Johnson*. He wrote me, on the 30th ultimo, with respect to the matter, as follows: "As regards the bill of health I have given to Capt. I. T. Reoss, of the *Eva N. Johnson*, I beg to state that I have given it in good faith. When Captain Reoss left our port, in the forenoon of April 29, there were one or two sailors on board the *Medora* (Italian bark) known to be sick; but the vessel being under the French flag, and the French consul, being a doctor himself, not having made any declaration as to bad fever, but stating it to be only a fever, I had no cause to refuse Captain Reoss a clean bill of health. It was not until the next day that the sickness spread, and was then pronounced to be a bad typhus fever."

On the 30th of April last Mr. Ahrendts wrote me, giving full information as to the fever which had broken out on the *Medora*, the *Hattie N. Hoers*, and the *John Mowen*, then lying in the port of Miragoâne, and from the manner of his careful, prompt, and regular correspondence from that date with the consulate-general as to this matter, I conclude that his statement just given is substantially true. And, besides, the yellow fever was not discovered to exist, even in this city, till the last day of April, when a prominent American citizen died of it here. It was about that time that reports began to circulate as to its existence, and the physicians concluded, after no little doubt and hesitation, that it was actually making its appearance in the country.

From all the light I can gather on the subject I do not feel that Mr. Ahrendts intended to do any other thing than his duty in this case; and here I may add, it has been sometimes very difficult in times of yellow fever in this country, if one relies upon physicians or mere rumors, to decide what his duty is with regard to issuing a bill of health; and hence I give Mr. Ahrendts the benefit of any doubt which may exist in regard to his conduct.

Consul-General J. M. Langston has issued the following circular (August 6) to consular officers of the United States in the island of Hayti:

Owing to the prevalence of malignant and contagious fevers in several sections of this republic, the Department of State at Washington urges and requires of the several consular officers of the United States in this island that the utmost care and vigilance be exercised on their part in the grave and important matter of issuing clean bills of health. You are requested to seriously consider that the issuing of a clean bill of health is not a mere formality, but a grave duty, in the discharge of which too great vigilance and caution cannot be exercised, particularly under the present trying circumstances, and during a period in which fatal and malignant fevers are known to be abroad. The vast importance which is attached to the issuing of a bill of health may be realized in the fact that the safety and lives of millions of inhabitants may be endangered by one solitary act of carelessness on the part of consular officers. You are therefore cautioned, in formal manner, to firmly deny any application for a clean bill of health unless you are able to clearly and indisputably substantiate the requirement expressed in certificates of health, viz: "That good health is enjoyed in town and adjacent country without any suspicion of plague, cholera, or contagious dysentery, whatever." Any deviation from these injunctions on the part of consular officers will be held by the Department of State to a strict accountability. You will please transmit to this office a full and detailed account of the state of the public health at your agency and its dependencies, in order that I may be enabled to forward such statements to the proper authorities at Washington.

PORT AU PRINCE, HAYTI.—Consul A. Bird, under date of August 6, 1879, writes:

During the last two or three days a decidedly unfavorable change has taken place among the several crews of foreign vessels in the

harbor of Port au Prince, and since the 4th instant several deaths from yellow fever have occurred. Under such circumstances I have discontinued the issuing of clean bills of health. A minute and careful report of the general condition of the public health in the several ports of Hayti will very shortly be submitted to the department. At this writing, however, it is conceded that the general public health of the island is unfavorable and that various types of malignant fevers are prevalent.

HAVANA.—Dr. Daniel M. Burgess, medical officer in the office of the consul, reports, August 23, 1879:

The American bark *Han, H. Green* sailed from here ostensibly for Baltimore, Md., August 21. During the stay of the vessel at this port several cases of yellow fever occurred aboard, the cook dying of it in the cabin. One of the sailors died in hospital after his removal there. The British bark *Black Prince*, which sailed from New Orleans August 21, had also several cases, the captain's wife being scarcely convalescent from it when the vessel left. Two members of the crew of the American brig *Harry Tilden*, which, sailed for Philadelphia, Pa., August 18, also suffered from the disease while the vessel was here. To-day the Spanish steamer *Maria* sails for New York with earth ballast, leaving three of her crew behind. One has died of yellow fever and two remain in hospital with same disease. The American barks *L. T. Stocker* and *Acacia* have cleared for Pascagoula in stone ballast. Both vessels have suffered severely from yellow fever while here. All vessels which have had yellow fever occur aboard while here, and proceeding to the United States at this season of the year, should be regarded as infected. There were reported last evening 170 cases of yellow fever as existing in the military, naval, and civil hospitals of the city.

August 30:

The Spanish ship *Angelita* which had returned from sea on account of having several cases of yellow fever aboard, sailed again for New York, August 24. It is not necessary to say that she is badly infected. The American barks *L. T. Stocker* and *Acacia* sailed for Pascagoula the 26th instant. The British barks *Trochique* and *Greenock* left for New York on the 26th and 29th instants respectively, and the bark *Kururakee* of the same nationality sailed for Philadelphia the 29th instant. All of these vessels while here had numbers of cases of yellow fever occur aboard which were sent, as soon as discovered, to the hospital by their captains. There were reported one hundred and eighty-six cases of yellow fever as existing yesterday in the various hospitals of the city, which makes it probable that there were about two hundred and twenty cases in both hospital and private. The abundant warm daily showers which we are having seem to have the effect of increasing the disease somewhat, although the number of candidates for it are diminishing.

CHOLERA IN JAPAN.—Medical Inspector Kindelberger, U. S. N., writes over date of July 21, 1879, as follows:

During the last six weeks a disease having most of the symptoms of Asiatic cholera has been raging in several of the provinces of Japan. Up to within a few days over 15,000 cases have been reported, of whom about 60 per cent. have died. Great difference of opinion prevails among the medical men as to the identity of the disease. So far no Europeans have been attacked, and among the Japanese the poorer classes only are the sufferers. No symptoms of it have occurred on board any of the vessels of the squadron. Yokohama is yet free from but has some indications of the coming of the disease.

THE HAVANA COMMISSION.—Dr. Chaillé writes, August 14: "During the first week I have inspected the *Barrio* (ward) *de Colon*, fronting the sea, the ward next in evil repute to the wards of the fourth district lying by the harbor. The most fertile imagination could not exaggerate the unsanitary conditions of these localities. Defective drainage, nauseating filth, and all the ills of deficient water-supply and of overcrowding are so conspicuous that it becomes a matter of astonishment that people can live at all under such circumstances."

STEAMBOAT INSPECTION (QUARANTINE).—Inspector J. H. Ranch reports as follows concerning the operations of the steamboat inspections at the station on the Mississippi River at Island No. 1, below Cairo, Ill.:

The quarantine boat has been repaired and that station is in condition to meet any probable contingency. As a matter of fact, although its establishment was attended with many annoying delays and difficulties and its equipment is somewhat rude, it fully accomplishes its intended object. The inspections are cheerfully submitted to by the officers of the boats, and, as a rule, by the passengers thereon. Suggestions and advice as to sanitary measures are promptly acted upon, and there is a marked improvement in this direction, notably

in the care of latrines, holds, and bilge-water. The river interest is here receiving its first practical lesson, the moral of which is that the way to secure freedom of traffic and travel is to keep clean boats and to carry only clean cargo and healthy passengers. It has already been discovered that in the ratio that these things are done the interruptions and delays to commerce are reduced and a sense of security and confidence is restored to local communities which leads to the modification or repeal of unnecessary non-intercourse restrictions. There is a growing sentiment in favor of the National Board's increasing the number of inspection stations and making them permanent. The pressure which was brought to bear upon me for a long time and very urgently, not to allow boats from New Orleans to land anywhere in the State of Illinois, and to which I refused to yield, has very perceptibly diminished since the establishment of the station. I anticipate no further trouble from this source provided the inspections at New Orleans and Fort Adams be made thorough and conscientious.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

TERRY, COFFEYVILLE, VICKSBURG.—Inspector Wirt Johnson transmits reports upon the sanitary condition of these towns, with a report of Captain Dabney, civil engineer, upon a system of drainage at Vicksburg.

Terry, Miss.—The town of Terry is situated on the Chicago, Saint Louis and New Orleans Railroad, 167 miles north of New Orleans. It has a population of about 250, chiefly whites. The water supply is from underground cisterns. The natural drainage of the town is very good. There is a board of health here, Mr. F. R. Carliss, president. The general sanitary condition of the place seems to be pretty good.

Coffeyville is situated on the Chicago, Saint Louis and New Orleans Railroad, 319 miles north of New Orleans, and 116 miles from Memphis by rail. It has a population of between 500 and 1,000, the whites and negroes being about equal in number. The western part of the town is situated on hills; but the eastern part is flat. As a consequence the natural drainage of the former is good, while that of the latter is bad. The water supply is from wells dug in the ground, which in the flat portion of the town are only 13 or 14 feet in depth; in the hilly portion they are deeper. The town is not in a very cleanly condition; there still remains sanitary work to be done. There is, however, but little sickness there.

Vicksburg, Miss.—The city of Vicksburg is situated on the Mississippi River, or rather on a lake which a short time ago was the bed of the river, 100 miles from New Orleans by water, and the same distance from Memphis by water. It is the western terminus of the Vicksburg and Meridian Railroad, which road intersecting with the Chicago, Saint Louis and New Orleans Railroad, at Jackson, Miss., gives Vicksburg communication with New Orleans by rail. Its distance from the latter city by this route is about 225 miles. Two and a half miles above the city on the Louisiana shore, at the town of Delta, is the terminus of the North Louisiana and Texas Railroad. The population is variously estimated at between 12,000 and 16,000, and it is said the number of whites and the number of blacks are nearly equal. The city is situated on the hills overlooking the lake, and the site is very much broken by a number of small hills, so that in many instances a large amount of grading is necessary to erect buildings.

The water supply is chiefly from underground cisterns, but the inhabitants living on the street, at the foot of the hills, nearest the lake, use the water from it. I am not certain that all of the cisterns are so located as to be free from the danger of sewage contamination. Dr. Balfour, city physician, informs me that the water of the lake is impure. The general sanitary condition of the city is pretty good. Under the direction of an intelligent board of health much sanitary work has been done. At this time there is no system of sewerage on a regular plan. The workshops of the Vicksburg and Meridian Railroad are located here, but are in fair sanitary condition.

The report of Captain Dabney is as follows:

Prior to the year 1876 the whole body of the Mississippi River passed along the front of the town, and carried off all the sewage and other matter that found its way into the water. By the "cut out" of that year the channel of the river receded from the town and is now entirely below her lower limits. The old channel, which has been forsaken by the river, has been steadily filling up with sand and mud. The heavier particles of sand are arrested and precipitated in the lower portion of the harbor; the remaining area is covered by a deposit of very soft mud. This deposit has reached an elevation in front of the town sufficient to be partially disclosed when the river falls to a level twenty-one feet above low water, after which the water ceases to flow by the city and becomes stagnant. The river is at or below this stage about eight months in the year—from spring to early winter. There is a depression along the Vicksburg side of the old channel in which some water remains generally throughout the summer and fall, though there will be little else than soft mud left when the river reaches a stage ten feet above low water. This

depression is the receptacle for the drainage and sewage of a large part of the town, and as the water recedes a wide margin of mud is uncovered and exposed to the heat of the sun, upon which has been deposited quantities of organic matter, and the odor arising from it is very offensive. It is not difficult to foresee what an enormous evil this will grow into unless arrested by proper sanitary measures.

The surface of the town is divided into three water-sheds; there are, however, practically only two. The first has its declension northward into Glass's Bayou and thence into the lake (old river channel), at the northern limit of the harbor. The second declines westward directly into the harbor, having an extent northward and southward of about one and a quarter miles. These two may be considered as one. The third finds an outlet through Roundhouse Bayou, which has its source in the eastern part of the town and flows southward parallel to the river front.

The last we may dismiss from further consideration. It drains about one-third of the geographical area of the town, but it is for the most part sparsely inhabited and suburban in character, and does not need present attention. The first, which is discharged through Glass's Bayou, I must also dismiss, because there is no practicable remedy. The point of discharge, however, is at the northern extremity of the former river front, and from that point in the lake the decline is northward, so the evil may not be a very serious one. The remaining water shed, which falls directly into the former harbor all along the front of the town, comprises about one-half its geographical area, and embraces the most thickly settled, and the whole business part of the community. That portion of this drainage area lying north of South street and east of Washington, being some thirty squares, thickly populated, discharges its water into a large underground sewer underlying the middle line of Washington street, with its declension northward. It discharges into the lake a few hundred feet south of the mouth of Glass's Bayou, and at that point much deleterious matter is concentrated and has no means of escape from the vicinity of its deposition.

The only corrective measure that I am able to suggest, while it will not remove the entire evil, will eliminate by far the greater part. This is to construct a sewer of sufficient dimensions, having its northern extremity as near Glass's Bayou as practicable, and far enough up the hillside to afford the necessary fall. In the absence of an instrumental examination, I suppose the initial point would be in First East street, between Washington and Walnut. It should be carried thence southward diagonally across the front slope, receiving the drainage of the whole surface eastward, to the summit of the water shed, and discharge into live water below town. The sewer under Washington street must be dissected as such and divided into compartments by partition walls at every street crossing, and thus converted into catch basins to receive, as at present, all the drainage from above, and by outlets in the lower side discharge into the new sewer. The new construction would be about nine thousand feet long, if the river channel is held in its present position. It must, of course, be longer if the channel continues to recede from the town, and the difficulty of obtaining the necessary fall greatly increased, as well as the cost. The sewer must have large capacity towards its lower extremity, and the construction near the upper end will be expensive on account of the numerous buildings whose foundations must be encountered or avoided by tunnelling. The sewer will necessarily traverse squares, disregarding street lines, in the upper part of the town, because the streets in that quarter have a very decided declension to the northward.

There ought to be a modification in the surface drains to divert as much water as possible from this system into Roundhouse Bayou eastward; and many of the gutters are in such bad condition as to require renewal.

TULLAHOONA.—Inspector E. M. Wight visited this town to investigate a reported case of yellow fever. The following is his report dated August 22:

Tullaohona is a thriving little town on the line of the Nashville, Chattanooga and Saint Louis Railroad, situated on the western slope of the Cumberland Mountains at an altitude of 1,970 feet. It is a summer watering-place of considerable local note, with hotel and cottage accommodations for about three hundred guests; and there are now about two hundred visitors at the place. The town and surroundings are in excellent sanitary condition. There is no record of yellow fever having occurred here before. There is no board of health; but a sanitary committee of the board of mayor and aldermen is made to serve the purposes of a board of health.

Case.—Elliott Boyd, 19 years of age, resident of Shelbyville, 20 miles from Tullaohona, and about 300 miles from Memphis by rail, was the half-brother of Rev. Mr. Tiller, who died at Shelbyville, of yellow fever, on the 25th of July last, and whose case was reported by me at the time of his death with some account of the surroundings. Tiller was but six days out of Memphis at the time of his death. Boyd was engaged in nursing Tiller during the last four days of his illness and remained constantly at his house. He assisted in burying the body, and afterwards, at the instance of the health authorities, was "quarantined" at a house built for the purpose, several miles in the country, with the other members of the Tiller family. The whole family was completely isolated and ordered to so

remain for 21 days. At the end of the eighteenth day of the period of isolation Boyd asked permission to go to town, which was refused by the president of the Shelbyville board of health. The next day he eluded the guard and went by rail to Tullaohona, where he arrived the same day (August 14), at the house of his mother, and was taken sick that night with a "slight chill and severe head and back ache," and passing through a well-defined history of yellow fever, as related by his medical attendants, nurses, and family, died on the 22d, at 10 o'clock a. m. He was in the medical care of an irregular practitioner, who at first considered his case one of bilious fever, and on the day before he died pronounced it as having "turned into diphtheria."

So far as I have learned, this is the first case of yellow fever that has been contracted from any Memphis refugee or baggage—excepting such as have occurred near Memphis—this season. The circumstances of its contraction are somewhat peculiar; but by reference to the report made from Shelbyville at the time of the Tiller case it will be seen that this last occurrence should not have been unexpected. No other member of the Tiller family has fallen sick thus far, and they are now at Shelbyville, having returned from their isolation of 21 days in good health.

DURANT, MISS.—Inspector Dr. Wirt Johnston reports as follows, August 26:

The town is situated on the Chicago, Saint Louis and New Orleans Railroad, 141 miles north of New Orleans. It has a population of about 800, there being nearly an equal number of whites and negroes. The water supply is from wells. The privies are located on the surface of the ground. There is a slight surface slope towards the east. The sewers are open drains and the sewage passes to the east, into Big Blue River, one and one-half miles distant. In many places there are holes of stagnant water in the drains. Except the privies and the drains, the town seems to be in pretty good sanitary condition and there is but little sickness of any kind.

FIRST SANITARY MEASURES AT MEMPHIS.—As early as July 12, Hon. John Johnson was appointed superintendent of quarantine at Memphis, by the State Board of Health of Tennessee, with the following instructions:

It is ordered by the State board of health that as member of the board you are to consider yourself on special duty until otherwise informed; and the position you are assigned to is officially to be known as "superintendent of quarantine," with headquarters at Memphis. In the performance of the duties imposed the following general instructions are given for your guidance:

1. The territory over which you shall have jurisdiction embraces the taxing district of Memphis, and entire county of Shelby, Tennessee.

2. You are charged with the enforcement of such rules and regulations as have been adopted by the State board of health (see copy of same herewith inclosed), and such additional measures as the said board may hereafter adopt, having for their common object the "stamping out" of yellow fever, which has appeared in Memphis, or the restricting of the disease to the immediate locality or localities at which it has appeared or may appear in the city; or if that be not possible, then you are directed to exhaust every means which this board may approve to confine the pestilence within the limits of Memphis or such other centers of infection as may develop in Shelby County outside of Memphis.

3. With the view of affording this board full and accurate information upon which to base intelligently such directions as the progress of events may make necessary, it is ordered that you make daily a written report, and, if necessary, one or more telegraphic reports each day to the president of this board, detailing at length the mode and manner in which the instructions issued from time to time to you from this office are being executed; to which you will add such suggestions and comments as may seem to you proper looking to such health regulations being made more effective.

4. You are directed to confer frequently and freely with the agent of the National Board of Health in Memphis, and also with the local board of health in Shelby County, as to the work in hand, and all suggestions or recommendations made by either will be promptly reported to this office; and should any suggestions involving change from the directions prescribed by this board be offered, you will first secure the approval of this office before attempting to place the same in practical operation.

5. In addition to your general duties as superintendent of quarantine for Shelby County you are directed to organize a "disinfecting corps," and to become responsible for the thorough disinfection (especially of each local point of infection which may occur, and of its immediate neighborhood) of all privy vaults, houses, including textiles, bedding, etc., which may have been used by the sick; disinfection of the dead and all those who may have been exposed to the infection; disinfection of steamboats, railroad depots, cars, baggage, mails, and all other places and things which have not been enumerated above, but which in your judgment it would be proper to disinfect.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, SEPTEMBER 13, 1879.

[No. 11.]

SANITARY INSPECTION (QUARANTINE).

The enforcement of sanitary inspection (quarantine) of steamboats upon rivers and of cars upon railroads, has excited grave apprehensions. Such delay of business and travel has been regarded as an official interference with the hitherto free and unrestricted course of commerce and intercourse which would not be tolerated. But these apprehensions have not been realized. Commerce and sanitary inspection (quarantine) have been found to harmonize when intelligently managed, and to co-operate to accomplish the same great purpose, viz. the prevention of the spread of contagious and infectious diseases from one State into another. In the present state of public opinion commerce and travel are universally regarded as the carriers of these diseases, and hence, when pestilence appears at a business center, they must either cease altogether or take those precautions necessary to remove the contagion or infection which adheres to them. With characteristic good sense business men, corporations, and travelers have welcomed inspection (quarantine), and the result has been uninterrupted commerce and travel in the Mississippi Valley, so far as such inspection affects them, and complete protection of the contiguous communities.

The operations of steamboat and railroad inspections (so-called land quarantine) are well illustrated at Island No. 1, on the Mississippi River, a few miles below Cairo, Ill. This station was established by the National Board of Health for the purpose of protecting the contiguous States of Kentucky, Missouri, Illinois, Indiana, and Ohio from infected river craft from Memphis and other ports. It was organized and is directed by Inspector J. H. RAUCH, assisted by Dr. FRANK W. REILLY. Every boat is required to carry a bill of health in the same manner as a sea-going vessel. The following is a copy of one of these bills of health, filled at the inspection:

The United States of America. National Board of Health. No. 27. Port of ——. Bill of health.

I, F. W. Reilly, sanitary inspector at the port of —, do hereby certify that the vessel hereinafter named clears from this port under the following circumstances:

Name of vessel. Lucy E. Gastrell.

Has the name ever been changed? If so, how? No.

Where built? Cincinnati, Ohio. When built? 1-78.

Nature. Steamboat.

Tonnage. 250. Apartments for passengers, No., 19.

Destination. Cincinnati, Ohio, from New Orleans August 15.

Name of captain. Oscar Jolley.

Name of medical officer, if any.

Total number of crew, 10.

Total number of passengers: First cabin, 3 from New Orleans, 3 from Vicksburg, 1 from Leota Landing, 1 from Terrene.

Cargo. Empty beer-barrels, rosin, scrap-iron, soap stock.

Ballast.

If recently near quarantine grounds. No.

Any circumstances affecting the public health existing in the port of departure to be here stated. Healthy.

Sanitary history of vessel, with statement of number and dates of cases of yellow fever. Good; no fever.

If recently alongside sea-going ship or harbor-tug, give name of ship or tug and date.

Sanitary condition of every part of the vessel (before and after reception of cargo, with note of any decaying wood). Good.

Sanitary condition of cargo; if reshipped from other vessels give names and dates. Good; not reshipped.

Sanitary condition of crew. Good.

Sanitary condition of passengers. Good.

Sanitary condition of clothing, food, water, air-space, and ventilation. Good.

Sanitary condition of port and adjacent country—

a. Prevailing diseases, if any. None.

b. Number of cases of yellow fever during the week preceding.

I certify that I have personally examined the steamboat or vessel named herein and find that the sanitary condition of the vessel, cargo, crew, and passengers is —, and that — members of passengers, officers, or crew have fever; that the rules and regulations prescribed by the National Board of Health have — been complied with, and that the [name of the vessel] leaves this port bound for —, State of —.

In witness whereof, I have hereto set my hand and seal at the port of [inspection station], this 25th day of August, 1878.

(Signed)

F. W. REILLY, *Sanitary Inspector.*

NOTE.—This boat left New Orleans the 15th instant, at which time there had been no case of fever for eighteen days. As this is the eleventh day since her departure and her sanitary condition is good, I see no reason for refusing permits to land.

The effect of this system of inspection, when intelligently carried out, is most gratifying. Last year the intensely infected boat *John B. Porter* was an unchallenged rover on the Mississippi and Ohio Rivers, and scattered pestilence broadcast for a distance of 500 miles. This year no such calamity is possible. Inspector RAUCH thus reports the results of the operations of this novel river quarantine:

As a matter of fact, although its establishment was attended with many annoying delays and difficulties and its equipment is somewhat rude, it fully accomplishes its intended object. The inspections are cheerfully submitted to by the officers of the boats, and, as a rule, by the passengers thereon. Suggestions and advice as to sanitary measures are promptly acted upon, and there is a marked improvement in this direction, notably in the care of latrines, holds, and bilge-water. The river interest is here receiving its first practical lesson, the moral of which is that the way to secure freedom of traffic and travel is to keep clean boats and to carry only clean cargo and healthy passengers. It has already been discovered that in the ratio that these things are done the interruptions and delays to commerce are reduced and a sense of security and confidence is restored to local communities which leads to the modification or repeal of unnecessary non-intercourse restrictions. There is a growing sentiment in favor of the National Board increasing the number of inspection stations and making them permanent. The pressure which was brought to bear

for a long time and very urgently, not to allow boats from New Orleans to land anywhere in the State of Illinois, has very perceptibly diminished since the establishment of the station.

HOW TO ORGANIZE SANITARY WORKS.

It is commonly a question very difficult of solution by those unfamiliar with sanitary works in towns as to the methods of procedure necessary to inaugurate the movement and give it right direction after public opinion has determined that such works shall be undertaken. A very good example is given by the city of Fernandina, Fla., which, after the yellow-fever visitation of 1877, wisely concluded to relieve itself of the principal source of malarial disease by drainage and other improvements. The first step of the city council was to constitute its sanitary committee a board of sanitary improvements. This was a most judicious measure, for the work was presumably placed under the direction of an expert body. But there were no funds available for such extraordinary works at that season of the year, and yet the work must be done in cold weather. The council proceeded to meet the difficulty in a statesmanlike manner, and their action affords an admirable precedent. The result of this municipal legislation was most satisfactory; the work was properly and satisfactorily done, and "since the improvement in drainage the city has been remarkably free from malarial fevers."

In the belief that the example of Fernandina can and should be followed by many towns suffering annually from malarial fevers, its ordinance is inserted in full:

AN ORDINANCE concerning the construction of drains to secure the health of the city.

SECTION 1. *Be it ordained by the city council of Fernandina,* That the sanitary committee be, and they are hereby, constituted a board of sanitary improvements to construct drains and otherwise improve the low, marshy grounds of the city in as substantial and permanent a manner as they may deem fit, and as the city council from time to time may direct.

SEC. 2. The aforesaid board of sanitary improvements are particularly desired to make the following improvements for the year 1878 and have the same constructed during the present winter months:

ARTICLE 1. To deepen the ditches and take up the wooden drains through the marshy grounds between Centre and Ash streets from the eastern boundary of Fourth street to the river, and either lay pipe or tile drains of suitable dimensions to drain the low grounds in that locality.

ART. 2. To construct a pipe or tile drain on Beech street from near Fifth street to the river, with side drains from cross-streets, to drain the marshy ground in that locality.

ART. 3. To take up the wooden drains on Centre street, deepen, and make a more efficient drainage on said street between Eighth street and the river.

ART. 4. To clean out and open the ditches in the park; lay a pipe or tile drain across Centre street from the south side of the park to connect with the main trunk on the north side of Centre street; also clean out the main ditches and side drains from Ninth street, near Colonel Taylor's, down through the gully, and repair the floodgate of Escambia street.

SEC. 3. And inasmuch as the city has no available funds on hand to pay the cost of the improvements designated, it is hereby ordained that the sum of twenty-five hundred dollars be, and the same is hereby, appropriated and set apart out of the revenue of the city for the year 1878, for the use and to the credit of the sanitary committee in making said improvements.

SEC. 4. And for the purpose of raising the ready means to pay for the said improvements at the lowest cash prices, the said board is hereby authorized to open a subscription list and raise, by subscription, the necessary funds to pay for the same, and pledge the foregoing appropriated amount of taxes for the year 1878 for the repaying of subscriptions, with interest.

SEC. 5. Subscriptions may be received on a cash basis; but said committee may receive payment thereof either in cash, material, or labor, as they may deem expedient. Voluntary contributions, either in cash, material, or labor, may also be received by said committee in excess of the loan.

SEC. 6. The board may appoint one of their members as treasurer of the board, to whom all such subscriptions for the contemplated relief fund shall be paid; and when so paid in, either in money or kind, the subscriber shall receive a certificate to the following effect, viz:

"CITY OF FERNANDINA, ———, 1878.

"This is to certify that ——— did subscribe and pay to the board of sanitary improvements of Fernandina the sum of ——— dollars, to enable them to make certain improvements contemplated in an ordinance approved January 15, 1878, which amount is secured and will be paid out of the revenue of the city for the year 1878, in cash, on or before the 1st day of February, 1879, with interest from date; or those certificates shall be received by the tax collector in payment of cash levied for the purpose; which certificate shall be signed by the chairman and the treasurer of said board and be countersigned by the mayor, and the city seal attached thereto."

SEC. 7. The sanitary committee shall report to the city council on or before the first meeting in April next the amount of certificates issued under this ordinance, together with the amount of interest required to be raised for the same, and thereupon the city council will make and add such additional appropriation for the assessment of taxes for the year 1878 as may be necessary to provide for the payment of said interest; and, for the purpose of meeting the payment of said certificates when due, it is hereby further ordained that the amount so appropriated and set apart from the taxes of 1878 be paid over to the treasurer of the sanitary improvement board by the tax collector out of the money collected by him, and as fast as collected, when due. The certificates when redeemed shall be canceled by the treasurer of the board and by him reported to the city council.

SEC. 8. *Be it further ordained,* That the owners of city lots in and about the neighborhood of the contemplated improvements, whose lands are low and wet, shall drain the same either with open or covered ditches, connected with the nearest main drain, or fill up the ground, as the board may direct; and it shall be the duty of the sanitary committee, by its chairman or agent, to notify the owner or owners of such lots to drain them as designated; and upon refusal or neglect to comply with such notice, or in case of the absence of the owners of such lots, the said board shall make the same at the lowest cash price and charge the cost thereof to the owner of such real property; and the amount of cost, if not paid by the owner of such real property, shall be made subject of a special assessment on said premises and be collected with other taxes.

SEC. 9. The said board of sanitary improvements is further authorized to employ any sum which may remain unexpended after the completion of the improvements heretofore mentioned, in constructing drains in the streets between Beech and Calhoun streets, Third street, and the river, so as to carry off the spring water and rain water accumulating in the soil, and to require the proprietors of such adjacent lots as may need drainage, to have the same drained into the street drains or have the same done at their expense, as provided for in section 8.

SEC. 10. The said board of sanitary improvements shall be authorized to employ or accept the voluntary services of an experienced engineer (civil) who, under the direction of the board, shall survey, lay out, and superintend the construction of the improvements herein contemplated, and who shall be authorized to employ the necessary assistance for the surveys at reasonable rates, and also to employ, with the approval of said board, a competent supervisor of the hands employed in the construction of the said improvements at a salary not exceeding \$2 per day of actual service to be paid by the board out of the funds provided for in this ordinance; and the said board is authorized to employ the services of the said supervisor of hands or some other suitable person as their agent in keeping the improvements herein provided for, after their completion, in good order, and for such other sanitary measures as they may deem necessary, at a salary of not more than \$2.50 per diem of actual service.

SEC. 11. The sanitary committee is further authorized to select and, with the approval of the city council, appoint a practicing physician of the place as health officer of the city, whose advice and direction the committee shall take in all sanitary measures of the city, and to adopt such other and further rules and regulations as they may deem necessary and expedient in accomplishing the work contemplated by this ordinance.

SEC. 12. All ordinances or resolutions of the city council heretofore adopted and which are in conflict with the provisions of this ordinance are hereby repealed and abrogated.

A SUPPLEMENTAL ORDINANCE to an ordinance concerning the drains to secure the health of the city.

Be it ordained by the city council of Fernandina, That the following supplemental ordinance on construction of drains to secure the health of the city, approved January 17, 1878, is hereby applied:

SEC. 13. Whenever it becomes necessary for the sanitary board to raise the requisite means to pay the costs for draining private property under section 8 of said ordinance, the board may borrow money and pledge the special-tax assessment on such lots for that purpose, with interest, such interest to be calculated and added in the assessment of said tax, and made payable on or before the first day of March next following; the board to issue a certificate to that

effect, which certificate shall be signed by the chairman and the treasurer of the board.

Sec. 14. *Be it further ordained*, That from and after the passage of this ordinance all sinks, well privies, within the corporation, be abolished, and the people required to establish and use water-closets or boxes, whereby the human excretal matter can be cheaply and frequently removed to a safe distance; and it is hereby made the special duty of the sanitary board to attend to this sanitary measure and carry the same into operation. And it is hereby made the duty of the people to fill up, clean out, and remove their well privies and erect water-closets or earth-closets with or without dry boxes in the place of the well privies, and remove all excretal matters at such times and in such manner as the sanitary board may require, upon due notice being given in writing, upon the neglect or refusal of which the person or persons so refusing or neglecting shall be brought before his honor the mayor, and, if found guilty, be fined not less than three nor more than ten dollars, and in addition to such fine such well privies or uncleaned closets shall be declared a nuisance and be adjudged to be removed by the marshal at the expense of the owner; the expense of removal shall be added as costs in the case.

Sec. 15. The said sanitary board is further authorized and instructed to grade, clean out, and drain all the street gutters within the city and to keep the same in repair, so as to drain off the rainwater and prevent pools in the city.

Sec. 16. The said sanitary board is further authorized and instructed to have all kitchen slops and laundry water removed and disposed of and establish such rules and regulations for such removal as said board may deem best. And any person first being duly notified in writing to comply with the rules of said board shall be brought before the mayor, and if found guilty shall be fined not less than one nor more than five dollars.

Sec. 17. It is further ordained that the present members of the sanitary committee, together with the engineer and the city physicians, shall constitute the sanitary board and continue to act as such during good behavior in office or until removed by the city council with the approval of the mayor; and whenever any vacancy occurs in said board by death, resignation, or otherwise, the remaining members of the board, by and with the approval of the mayor, shall fill such vacancy.

Sec. 18. It is also ordained that whenever any epidemic shall again come upon our city the sanitary board shall be authorized to augment their members to a sufficient number required to take charge of and manage the entire sanitary affairs of the city, and to bring relief to the suffering people; said sanitary board to be empowered and authorized to receive contributions and aid from others and apply the same in bringing relief to the suffering people from such epidemic.

Sec. 19. It is further ordained that the mayor of the city shall ex officio be the president of the sanitary committee and have a supervisory power over the actions of the board.

Approved March 5, 1878.

RESCINDING THE RULES OF THE NATIONAL BOARD OF HEALTH.

The city of Vicksburg having asked aid in maintaining a quarantine at that port and for other uses connected with the sanitation of the city, the National Board of Health considered it a duty to reduce the estimates to about one-third of the amount solicited, assigning as the reason for this reduction the fact that the sum of \$9,000 had just been appropriated to the State Board of Mississippi to maintain quarantine stations at the State limits above and below Vicksburg. Whereupon the following action was taken by the health authorities of the city:

At a meeting of the board of health held on the 23d, the following preamble and resolution were passed:

Whereas the municipal board of health of the city of Vicksburg has made strenuous efforts to get assistance from the National Board of Health to maintain an effective quarantine at this point, and forwarded to the National Board of Health an estimate of expenses for such a purpose under the impression that Vicksburg had been designated as a permanent station, but learning from Dr. Bemiss, a member of the National Board of Health, through Drs. Rice and Johnson, president and secretary of the Mississippi State Board of Health, that such was not the case, upon their advice we made another estimate in accordance with the application made by the State Board of Health, very much less than the first, and this, together with the statement of the mayor that our city was financially embarrassed and unable to maintain a quarantine agreeable to the rules and regulations of the National Board of Health, were forwarded to the secretary of the National Board of Health, and their receipt was acknowledged by him, and he referred this board to the State board for money for such purposes, they having received

\$9,400 from the National Board of Health. In a few days Dr. Cabell sent a telegram to the president of this board, saying it had been a mistake to refer us to the State board for money, but to get our last estimate approved by the State board and forward the same by telegraph. All of these requirements were complied with, and the board of health was under the impression they would soon have the means to maintain an efficient quarantine. Such, however, it seems is not the fact. The president of this board, Dr. Igglehart, received a letter this morning from Dr. Wirt Johnston, secretary of the State Board of Health, announcing that \$725.00 had been allowed by the National Board of Health for the maintenance of quarantine at Vicksburg. In view of the fact that Vicksburg is the most important place on the Mississippi River between Memphis and New Orleans, and whereas daily communication is kept up with these two cities by river and rail, and both infected at present with yellow fever, and liable to infect this city, and whereas a large extent of country contiguous to Vicksburg looks to it for protection, and whereas the National Board of Health has allowed only \$725 for quarantine purposes, which sum is hardly sufficient to establish, much less to maintain quarantine for a month: Now, therefore,

Be it resolved by the Board of Health of the City of Vicksburg, That we hereby annul and cancel all action heretofore taken in relation to the adoption of the rules and regulations of the National Board of Health and co-operation with them in the enforcement of the same, and hereafter we will endeavor as best we can to prevent the introduction of contagious and infectious diseases into this community. The National Board of Health, so far as we are concerned, has proven a failure in carrying out the objects for which it was instituted, and we will take care of ourselves and let others govern themselves accordingly.

O. S. IGLEHART, M. D.,
President Board of Health.
W. T. BALFOUR, M. D.,
Secretary.

The following is the report of inspections of steamboats presenting bills of health from other ports, made during the week ending August 30, 1879, at the inspection station off Island No. 1, Mississippi River; together with extracts from the "log" or diary kept at the station by the inspector.

AUGUST 27.—Inspected steamer *Gold Dust* from New Orleans, August 20, for Saint Louis. Presents clean bill of health from Sanitary Inspector Wm. Martin, M. D. "No new case of yellow fever [in New Orleans] since August 12." Found in good sanitary condition and vised bill.

Extract from Log—2:15 a. m., August 27.—Captain of *Gold Dust* reports southern Mississippi inspection station (at Port Adams, Miss.), not yet established. This station is for inspection of north-bound boats only; that at Commerce for south-bound boats. MEM.—New Orleans bill of health describes cargo as "general."

AUGUST 28.—Inspected steamer *City of Alton*, from New Orleans, August 23, for Saint Louis. Clean bill of health from Sanitary Inspector Martin. "One case of yellow fever in week preceding. No new case since August 21." Found 5 deck passengers from New Orleans not accounted for on bill of health; added these, and 9 cabin passengers taken on at Vicksburg. After examination and additions vised bill.

Extract from Log—7:05 p. m., August 28.—New Orleans bill of health for *City of Alton* defective as to passengers and cargo. The latter described as "general." It consists of molasses, sugar, and rice from New Orleans, and moss from Fleta Landing. No information as to whether sugar was taken from West Indian vessel or from refinery or warehouse.

AUGUST 29.—Inspected towboat *Port Ends* and barges from New Orleans, August 18, for Saint Louis. Clean bill of health from Sanitary Inspector Martin. "No new cases yellow fever since July 29." Sanitary condition good and vised bill.

Extract from Log—5:20 a. m., August 29.—*Port Ends* health bill defective; no mention of condition of number of barges; no information as to whence schooner came from, which part of cargo was shipped, nor what part of cargo was taken from such schooner.

Extracts from log, concerning other inspections, furnished under instructions from Dr. J. H. Ranch.

AUGUST 24.—12:30 p. m. Went out in skiff to inspect towboat *J. M. Arbon*, with barges. Raining and blowing hard; see duplicate No. 23. 1:40, returned on board. *Arbon* was allowed to leave New Orleans without bill of health, or visit from any quarantine or inspecting officer.

AUGUST 25.—1:20 a. m. Inspected *City of Greenville*, up from Vicksburg. (See duplicate No. 21.) No bill of health from Vicksburg, and captain says quarantine officer at Commerce, Miss., gave no bill either; merely said he was "all right."

1:15 p. m.—Boarded and inspected *Lucy F. Gashell*, up from New Orleans August 15. No bill of health from New Orleans. Inspected and gave bill with special endorsement (on which see duplicate No. 27).

Train Inspections.—Passenger trains on the New Orleans, Saint Louis and Chicago Railroad have also been inspected during the week, as follows: August 24, 25 and 26, by Dr. Reilly; August 27, by Dr. J. H. Ranch; August 28 and 29, by Dr. Reilly; August 30, by Dr. Ranch.

THE YELLOW FEVER.

The comparative difference between the epidemics of 1878 and 1879 becomes more and more marked as the season advances. During the past week there has been no increase of cases at the chief centers, and but one local outbreak beyond their limits, viz, at Bunlyin Station, Tenn. The disease has not as yet spread from this point. The work of cleansing, disinfection, and isolation is pressed with still more vigor at all infected places. The following statement for the current week of the two years will be read with interest:

1879.

New Orleans, La.—Two new cases; no deaths.

Memphis, Tenn.—One hundred and forty-five cases and 44 deaths.

Baudys Station, Tenn.—Total cases, 6; deaths, 2.

1878.

New Orleans, La.—During the week there were 4,525 cases and 530 deaths, making in all 6,137 cases and 1,925 deaths. In the last 24 hours there were 225 cases and 58 deaths.

Plaquemine, La.—Total cases to September 5, 175, and 37 deaths.

Morgan City, La.—There have been 25 cases and 8 deaths.

Port Eads, La.—Total cases, 67; deaths, 8.

Bay Saint Louis, Miss.—Total cases, 6; deaths, 2.

Pass Christian, Miss.—Total cases, 15; deaths, 1.

Ocean Springs, Miss.—During week, 16 new cases and 4 deaths. Total cases, 34; deaths, 9.

Port Gibson, Miss.—Total cases, about 500; deaths, 94.

Canton, Miss.—During week, 150 new cases and 20 deaths. Total cases, 340; deaths, 50.

Holly Springs, Miss.—During week, 116 new cases and 42 deaths. Total, 216 cases and 67 deaths. All of the resident physicians sick.

Evansville, Tenn.—Number of cases under treatment, 30; deaths, 9.

Memphis, Tenn.—Number of deaths during week, 657; number of cases cannot be ascertained by the authorities.

Richman, Ky.—Total cases, 136.

Cairo, Ill.—Editor *Gazette* died of yellow fever.

Gallipolis, Ohio.—Total cases, 25; deaths, 9.

The following cities have given notice to the National Board of Health of their requirement of *burial permits*: others will be added to the list as they give notice to the Board:

Albany, N. Y.	Hudson, N. Y.	Ogden, Neb.
Atlanta, Ga.	Indian County, N. J.	Philadelphia, Pa.
Baltimore, Md.	Jackson, Tenn.	Pittsburgh, Pa.
Boston, Mass.	Jacksonton, Fla.	Port Huron, Mich.
Brockton, Mass.	Kedok, Iowa.	Portland, Me.
Brooklyn, N. Y.	Laurens, Mich.	Providence, R. I.
Brookville, Ga.	Lawrence, Mass.	Quincy, Ill.
Buffalo, N. Y.	Little Rock, Ark.	Reading, Pa.
Burlington, Vt.	Louisville, Ky.	Richmond, Va.
Cambridge, Mass.	Lowell, Mass.	Richmond, Ind.
Charleston, S. C.	Marshall, Mich.	San Francisco, Cal.
Chattanooga, Tenn.	Memphis, Tenn.	Savannah, Ga.
Chicago, Ill.	Milwaukee, Wis.	Shreveport, La.
Cincinnati, Ohio.	Minneapolis, Minn.	Southeyville, Miss.
Cleveland, Ohio.	Mobile, Ala.	Springfield, Mass.
Columbus, Miss.	Nashville, Tenn.	Saint Louis, Mo.
Dayton, Ohio.	Newark, N. J.	Saint Paul, Minn.
District of Columbia.	New Bedford, Mass.	Flora, N. Y.
Eliz. Pa.	Newburgh, N. Y.	Vicksburg, Miss.
Evansville, Ind.	Newburyport, Mass.	Wheeling, W. Va.
Fall River, Mass.	New Haven, Conn.	Wilmington, Del.
Franklin, Ind.	New Orleans, La.	Yonkers, N. Y.
Gallipolis, Ohio.	New York, N. Y.	
Holoken, N. J.	Norfolk, Va.	

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

Statistical report of yellow fever in Memphis, Tenn., for the month of August, 1879. By B. W. WISS, inspector.

Date.	New cases reported daily.		Number of deaths reported daily.		New cases for week ending—		Deaths for week ending—		Deaths from other causes for week ending—		Number of deaths for week ending—total.	
	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.	White.	Colored.
August 1.	10	3	4	1	.....	.....	.....	.....	.....	.....	.....	.....
August 2.	12	2	4	1	.....	.....	.....	.....	.....	.....	.....	.....
August 3.	6	6	4	1	.....	.....	.....	.....	.....	.....	.....	.....
August 4.	11	4	4	1	.....	.....	.....	.....	.....	.....	.....	.....
August 5.	9	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 6.	9	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 7.	13	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 8.	9	14	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
August 9.	10	11	.....	.....	.....	70	.....	.....	.....	.....	.....	.....
August 10.	12	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 11.	20	14	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 12.	12	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 13.	7	16	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 14.	10	30	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 15.	3	11	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 16.	7	13	6	1	71	111	36	10	4	18	40	92
August 17.	13	13	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 18.	7	6	5	1	.....	.....	.....	.....	.....	.....	.....	.....
August 19.	19	12	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 20.	15	12	3	1	.....	.....	.....	.....	.....	.....	.....	.....
August 21.	7	19	3	2	.....	.....	.....	.....	.....	.....	.....	.....
August 22.	6	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August 23.	6	10	2	6	75	73	28	10	6	14	34	24
August 24.	7	12	3	4	.....	.....	.....	.....	.....	.....	.....	.....
August 25.	21	11	6	1	.....	.....	.....	.....	.....	.....	.....	.....
August 26.	15	13	5	1	.....	.....	.....	.....	.....	.....	.....	.....
August 27.	10	17	4	3	.....	.....	.....	.....	.....	.....	.....	.....
August 28.	7	6	6	2	.....	.....	.....	.....	.....	.....	.....	.....
August 29.	6	10	7	2	.....	.....	.....	.....	.....	.....	.....	.....
August 30.	21	17	4	2	81	81	36	15	5	12	41	27
August 31.	7	13	3	2	7	13	3	2	1	2	4	4
Totals..	326	359	135	42	326	359	135	42	21	59	156	101

July, 1-10.—Yellow-fever cases: white, 147; colored, 41; total, 188. Deaths: white, 53; colored, 3; total, 56.

August, 1-79.—Yellow-fever cases: white, 326; colored, 359; total, 673. Deaths: white, 135; colored, 42; total, 177.

July and August, 1-79.—Yellow-fever cases: white, 473; colored, 398; total, 871. Deaths: white, 188; colored, 45; total, 233.

HOLLY SPRINGS, MISS.—Dr. F. W. Dancy writes, September 5:

During the month of August there were six deaths—3 white and 3 black. This is the largest death roll for any month during the present year. There is no zymotic disease here. This town was severely scourged by yellow fever last year. We commenced early to put our town in good sanitary condition and established a rigid quarantine by a stationary and mounted police.

GRAND RAPIDS, MICH.—Dr. L. De Puy, health officer, writes, August 30, explaining the defects in his mortality returns. He has no means of ascertaining the number of cases occurring of each disease.

FAIRFAX C. H., VA.—Dr. R. W. Dorsey, writes, under date of September 4: "During the past summer there were a great many cases of sickness of a diarrhoeal and dysenteric nature. Cholera infantum was quite common in this village and vicinity, and there were many fatal cases."

ATTENTION is again called to the fact that several large cities, which probably require *burial permits*, are still excluded from the table, as not having notified the National Board of Health that such is the case. Such permits being generally essential to secure any approach to accuracy in the mortuary returns, the statistics based upon those returns lose most of their value unless a strict registry of burials is known to be kept.

Report of mortality in cities of the United States for the week ending August 30, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small pox.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
N. H., Concord	14,600	1	4	14.9														
Mass., Boston	375,000	67	136	9.9		20	43				9			1	2		4	
Cambridge	50,000	8	14	14.6		3	5											
New Bedford	27,000	2	9	17.3		2	2											
Pall River	48,500	16	24	25.8	1	1	9											
Newburyport	13,400	3	13	49.1		1	1											
Lowell	32,000	11	26	26.0		5	9											
Lawrence	40,000	8	17	22.1		3	4											
Brookton	12,000	2	6	26.0		2	2											
R. I., Providence	101,500	13	36	18.5		4	4											
Conn., New Haven	60,000	3	14	12.2		3	1											
Vt., Burlington	16,500	2	4	12.6		2	1											
N. Y., New York	1,097,564	253	492	23.4	3	51	103	11		36	9	3	9	10	1	8	5	
Brooklyn	564,447	131	301	21.3		35	54	9		4	4	1		1			4	
Yonkers	19,000	2	13	13.7		1	1											
Newburgh	17,568	1	4	11.8														
Hudson	8,784		1	5.9														
Utica	35,000	2	7	11.9														
N. J., Hudson County	190,000	37	77	20.3		11	7											
Newark	132,000	30	52	20.5		9	11											
Penn., Philadelphia	901,380	132	314	18.0		53	18											
Pittsburgh	145,000	38	68	24.1	1	4	10	11	1	3	1							
Erie	50,000	1	10	17.3		1	2											
Del., Wilmington	44,013	3	14	33.2		3												
Md., Baltimore	400,000	77	137	17.8	1	20	34	4										
District of Columbia *	160,000	25	34	23.6		5	7											
Va., Norfolk	24,000	9	18	28.8														
Richmond	80,000	17	30	19.5		6	4											
S. C., Charleston *	37,000	12	31	28.3		5	3											
Ga., Savannah *	32,636	12	19	30.3		2												
Brunswick	3,000	2	4	66.5														
Atlanta	39,000	12	17	32.7		1	6											
Fla., Jacksonville	10,000	3	5	26.0			2											
Miss., Vicksburg	15,000	1	6	30.8														
Columbus	27,468	4	9	28.8														
La., New Orleans	210,000	17	41	20.1	1	17	6											
Shreveport	7,000	1	4	29.8														
Tenn., Austin	15,500	1	3	10.1			3											
Tex., Austin	7,500	2	3	20.8			2											
Nashville	27,468	4	9	17.3		2												
Chattanooga *	12,600	4	7	30.4			2											
Ky., Louisville	175,000	19	52	15.5		12	1											
W. Va., Wheeling	35,000	6	13	14.4			3											
Ohio, Cincinnati	289,000	36	75	13.4		11	2											
Dayton	39,600	2	7	9.7		1	2											
Gallipolis	5,500	1	1	9.5														
Cleveland	175,000	13	66	19.6		6	11	4										
Mich., Port Huron	8,200	4	5	25.4														
Marshall	4,000	1	1	12.5														
Ind., Evansville	37,700	8	15	20.8	3		1											
Indianapolis	97,000	13	25	13.4		2	3	2										
Franklin	14,000	1	1	14.0														
Richmond	14,600	1	4	14.0														
Ill., Chicago	537,421	130	220	21.3	1	10	39	17		5	6							
Quincy	35,000	3	10	11.9		2												
Wis., Milwaukee	124,000	24	44	18.5		5	11	3										
Minn., Saint Paul	54,600	8	15	15.3		2	2	1										
Minneapolis	52,000	14	24	23.0		2	7											
Iowa, Keokuk	15,000	2	2	6.9														
Mo., Saint Louis	300,000	54	128	14.0		12	23	2		1	3	1		2				
Nebr., Omaha	30,000	8	21	15.6	1													
Cal., Vallejo	5,000	0																
Totals	7,329,001	1,312	2,721	19.3	16	342	505	91	1	102	68	7	43	38	1	67	36	3

* District of Columbia has 106,000 white, 54,000 colored; deaths 28 white, 26 colored. Rate per 1,000, white 13.3; colored, 25.1. Norfolk has 14,000 white, 9,000 colored; deaths 10 white, 8 colored. Rate per 1,000, white 37.0; colored, 42.1. Charleston has 25,000 white, 32,000 colored; deaths 5 white, 20 colored. Rate per 1,000, white 10.4; colored, 10.7. Savannah has 17,400 white, 17,400 colored; deaths 7 white, 12 colored. Rate per 1,000, white 20.5; colored 11.4. New Orleans has 145,000 white, 25,000 colored; deaths 14 white, 33 colored. Rate per 1,000, white 16.1; colored, 31.8. Nashville has 17,500 white, 9,500 colored; deaths 4 white, 6 colored. Rate per 1,000, white 8.0; colored, 32.9. Chattanooga has 8,000 white, 1,000 colored; deaths 3 white, 1 colored. Rate per 1,000, white 19.6; colored, 32.0.

The following reports for the week ending August 30 are from cities not known to require burial permits:

Allegheny, Pa., population 75,000; deaths 23; under 5 years 9; diarrheal 4, diphtheria 5, typhoid fever 1, scarlet fever 1, consumption 4. Ann Arbor, Mich., 7,520; no deaths. Augusta, Ga., 26,571; total deaths 13; under 5 years 6; cerebro-spinal fever 1, consumption 1, diarrheal diseases 5, whooping-cough 1. Bath, Me., 10,000; deaths 3; consumption 1, typhoid fever 1. Battle Creek, Mich., 7,500; 1 death from whooping-cough. Belfast, Me., 5,275; deaths 2; consumption 1, pneumonia 1. Benton County, Miss., 11,000; 1 death, typhoid fever. Birmingham, N. Y., 1,000; deaths 16; under 5 years 11; consumption 4, diarrheal 5, diphtheria 4. Bridgewater, Mass., 3,300; no deaths. Burlington, Iowa, 39,000; 2 deaths, 1 under 5 years; malarial fever 1, whooping-cough 1. Calais, Me., 7,000; 2 deaths, no causes given. Carrollton, Miss., 600; diarrheal

1, under 5 years. Columbus, Ga., 10,000; deaths 7; under 5 years 1; malarial fever 1, measles 1, whooping-cough 3. Davenport, Iowa, 27,000; deaths 2; under 5 years 6; consumption 2, diarrheal 6. Dubuque, Iowa, 30,000; deaths 6; under 5 years 3; diarrheal 1. Edgar-town, Mass., 1,700; no deaths. Fayette, Miss., 200; no deaths. Franklin, Tenn., 1,800; no deaths. Grand Rapids, Mich., 10,000; deaths 22; under 5 years 12; diarrheal 7, diphtheria 1, malarial fevers 1. Helena, Ark., 5,000; 1 death, malarial fever. Helena, Mont., 3,500; no deaths. Hernando, Miss., 1,200; no deaths. Indianapolis, Ind., 100; diphtheria 1. Jackson, Miss., 5,000; 1 death, under 5 years. Deaths 170. Kansas City, Mo., 14,000; deaths 4 white, 6 colored; diarrheal 3, diphtheria 1, malarial fevers 10, puerperal fever 1, typhoid fever 3. Louisiana, Mo., 5,000; deaths 2, under 5 years; cerebro-spinal fever 1, diarrheal 1. Madison, Ind., 12,000; deaths 5; under 5 years 1; puerperal fever 1, typhoid fever 1. Marblehead, Mass., 7,500; deaths 3; under 5 years 2; consumption 1, diarrheal 2. Milford,

Mass., 10,000; 1 death. Moline, Ill., 7,000; 2 deaths. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; 1 death, under 5 years. Murfreesborough, Tenn., 4,000; deaths 1; under 5 years 2; diarrhoea 2, pneumonia 1. Nantucket, Mass., 3,000; metritis 1. New Berne, N. C., 7,500; deaths 6; under 5 years 3; consumption 1, diarrhoea 1, typhoid fever 2. Niles, Mich., 4,630; no deaths. Norwich, Conn., 17,000; deaths 7; under 5 years 6; cerebro-spinal fever 1, diarrhoea 2, pneumonia 1, whooping-cough 2. Okolona, Miss., 3,000; 2 deaths, under 5 years; diarrhoea 1, pneumonia 1. Palmetto, Ohio, 5,000; no deaths. Pass Christian, Miss., 4,000; no deaths. Pensacola, Fla., 8,500; 5 deaths 7; under 5 years 3; diarrhoea 2, typhoid fever 1. Peoria, Ill., 40,000; deaths 7; under 5 years 3; diarrhoea 2, malarial fever 1. Pittsburgh, Mass., population not given; deaths 10; consumption 2. Portsmouth, Va., 11,000; deaths 4; under 5 years 3; diphtheria 2. Portsmouth, Ohio, 15,000; deaths 14; under 5 years 5; diarrhoea 2, typhoid fever 1, consumption 4. Pongkeepsie, N. Y., 20,000; deaths 4; under 5 years 2. Quarantine Hospital, New York; 1 case of yellow fever, no deaths. Ripley, Miss., 1,600; no deaths. Rochester, N. Y., 90,000; deaths 36; under 5 years 19; consumption 4, diarrhoea 5, malarial fever 1, whooping-cough 1. Rome, Ga., 5,000; 2 deaths; diarrhoea 1, typhoid fever 1. Sacramento, Cal., 25,000; deaths 11; under 5 years 2; diarrhoea 3, diphtheria 1. Salem, Ohio, 5,000; no deaths. Salt Lake City, Utah, 25,000; deaths 8; under 5 years 2; consumption 1, diarrhoea 2, diphtheria 4. San Antonio, Tex., 22,500; deaths 13; under 5 years 7. Senatobia, Miss., 1,500; no deaths. Shelbyville, Tenn., 2,000; deaths 3; under 5 years 1; consumption 1, typhoid fever 1. Sing Sing, N. Y., 5,000; deaths 6; under 5 years 1; diarrhoea 1, lung disease 2, malarial fever 1, typhoid fever 2. Tampa, Fla., 1,000; no deaths. Tusculum, Ala., 4,000; 1 death; diarrhoea, under 5 years. Watbury, Conn., 16,000; deaths 5; under 5 years 2; malarial fever 1. Wesson, Miss., 2,000; pneumonia 1. Winona, Minn., 11,780; deaths 4; under 5 years 3; consumption 1, diarrhoea 3. Youngstown, Ohio, 17,000; 2 deaths; consumption 1.

ABSTRACTS FROM SANITARY INSPECTORS' REPORTS.

DISINFECTION IN MEMPHIS.—Inspector W. B. Winn writes as follows, August 25:

The disinfection is by sinking in river or fumigation. The officers get a certificate of permission to destroy, from the owners of property used by fever patients, releasing the taxing district from all liability for damages, which certificate is filed at the health office. Where, however, the owner refuses to allow his property to be destroyed, the delinquent and textile materials used by the fever patient or patients are fumigated by burning sulphur in a close room for a period of two or three hours. Zinc-oxide, carbolic acid, and copperas-water are thrown around the premises. The excretions of fever patients are not disinfected, but thrown in the privy vaults. When fever patients recover little has been done in way of disinfection. Fumigation cannot be practiced during the patient's illness; recovery is slow and tedious, and when the patient gets out the family usually refuse to have bedding, &c., either destroyed or fumigated. Thus far corpses have not been disinfected (washed with disinfecting solution) before burial. Disinfection by boiling or by means of superheated steam I deem very advisable. A portable apparatus for this purpose was put on trial Saturday. The results are most promising. By means of superheated steam *every article* in the room of a fever patient, whether followed by recovery or death, can be thoroughly disinfected without damage. Carpets, curtains, table-covers, towels, &c., can be disinfected in this way and returned. By fumigation few if any of these articles are thoroughly disinfected.

Disinfection of mails, under the supervision of Sanitary Officer Offutt, is thoroughly and efficiently done. The Post-Office Department has rendered every facility to the officer in charge. The disinfection is by sulphurous acid gas. The letters are spread on tables loose, bags opened, and all packages untied. The room is now closed and sulphur burned for three hours before the doors are opened. The apparatus for dry heat has not arrived as yet.

In view of the defects referred to in the foregoing report measures were promptly taken to correct, as will appear by the following report:

DISINFECTION IN MEMPHIS.—Inspector Ross reports as follows, September 5:

The force employed for the work of disinfection of infected houses has been recently increased. It consists of two Roosa carts (capacity of four ordinary carts each), with two laborers and a sanitary policeman to each; two express wagons, with one sanitary policeman to each. The work of the Roosa cart squads is disinfection after death, and disinfection of houses in which the fever has occurred this year. One cart is assigned to the northern the other to the southern portion of the city, the dividing line being Madison street. As soon as possible after removal of the corpse the mattress, bedding, clothing, &c., is thoroughly saturated with carbolic acid (impure), put into the carts, carried to the river, weighted with stones, and sunk in

30 feet of water. The carbolic acid used is a dirty black and the mattress saturated with it is about as disgusting looking an object as could be imagined. If by any chance it should rise to the surface of the water the most degraded person would not be tempted to appropriate it. This morning it was reported to me that the hole in which the articles are thrown was filled to within a few feet of the surface of the water. I immediately took Mr. Johnson, superintendent of quarantine, and with him selected the site for a brick furnace for destroying these articles by fire. The furnace is in process of construction under the bluff, several hundred yards from any inhabited dwelling, and after to-day all infected textile fabrics will be thoroughly wet with the carbolic acid, carried to this place, and burned.

The carbolic acid used is not of much value as a disinfectant, but is very inflammable and will greatly assist in the combustion.

In the great majority of cases people are very willing for us to take possession of everything infected, but when any one objects we have authority from the superintendent of quarantine and local board of health to take them by force; the consequence is we carry off everything we think proper. We are also authorized by the above authorities to open, when locked up, infected houses, or houses in which we hear infected articles have been stored. Captain Jackson, the health officer, and force under him render valuable assistance in the latter work.

The rooms after infected articles have been removed are sprinkled with clean water, every article exposed and moistened, doors, windows, and chimneys tightly closed, and sulphur, 20 ounces to 1,000 cubic feet, burned in them. Rooms contiguous to the sick-room are also immunized as thoroughly as is deemed necessary. Orders are given that the rooms shall not be opened until the squad returns the next day. Privies and cesspools are freely treated with copperas solution, two pounds to the gallon, about five gallons being thrown into an ordinary privy. All other places requiring it about the premises are freely dosed with the same solution. The next day each squad returns to each place visited the day previously, opens up the houses, fills the privies and cesspools with *hot lime* freshly slacked, and distributes the same freely about the premises, under houses, in cellars, &c. Each day every house in which death has occurred the day previously is treated as above, and after this, as many houses in which recoveries have taken place, as possible.

DONALDSONVILLE AND PLAQUEMINE, LA.—Inspector Dr. A. R. Kilpatrick reports, August 11, as follows:

Donaldsonville is on the west bank of the Mississippi River, 75 miles above New Orleans. There are 2,500 inhabitants, mostly Acadian French, many Americans, a large majority of negroes, and some Germans and Jews. The town covers half a mile square each way. The soil is alluvial, very level, and very productive. There are large fields of sugar cane on both sides of the Mississippi River and on both sides of Bayou La Fourche, extending more than one mile back from the river. The town is in the fork between the Mississippi River and Bayou La Fourche. The water for drinking and cooking is rain or cistern water, mostly in wooden cisterns, or tanks above ground, though in seasons of scarcity the rain-water is freely used, being cooled with ice. There are no wells in the place. In all the Mississippi swamp country, on that river as well as on all the bayons running into it or out of it, the highest land is that *immediately on the banks*, the fall being back from the banks, and there is a natural drainage all over the swamp as well as here at Donaldsonville. This natural drainage, however, is here facilitated by drains or ditches leading back to the woods beyond the fields. Immediately in the rear of this town a railroad runs, and the grading of it also helps to quicken the drainage. There are no sewers, properly speaking, only the surface ditches. The recent rains have washed the surface and now everything is clean. The streets are wide, running directly from the river, and others crossing these at right angles running parallel with the river, none of them paved, and only very small detached spaces of the sidewalks paved with brick. The streets are level, smooth, and clean. The houses are built quite low and close to the ground. There are no cellars, as the surface-water would inundate them every winter and spring. All the dwellings have verandas and the sidewalks are protected from sun and rain by board awnings. The garbage and excreta are removed in carts every day beyond the limits of town and thrown on the ground. There are well-regulated meat markets, although sometimes on Sundays the meats become tainted in consequence of more being brought in than is purchased. The slaughter-pens are outside the corporate limits, but some parties cure the cowhides and sheepskins in town and try the tallow, &c., there. No manufactories other than tin-shops, snuff-shops, boot-makers, and tailors. There is only one cemetery, which is outside the town, and most of the interments among the whites are in brick or cement vaults. Burials are generally made within twenty-four hours and often twelve hours after death. At the outbreak of an epidemic of yellow fever, small-pox, or other disease, the physicians organize a board of health, which acts in concert with the municipal officers, and upon the subsidence of the epidemic this is neglected till another outbreak. The only registration is that kept in the Roman Catholic church by the priests, and that embraces only members of

that church and their families. Quarantine is seldom resorted to. As there are so many ways of eluding it it would be nugatory. None in 1878 or 1879. At the appearance of the last yellow-fever epidemic a branch society of the New Orleans "Howards" was organized on the 11th September, 1878, all the citizens contributing money and necessary supplies, as much as they were able, till the epidemic ceased. At that time there was surplus of money on hand, which was remitted to the present society in New Orleans, to be devoted to the relief of widows of physicians and their children. There have been epidemics of yellow fever generally every time there was one in New Orleans. As well as can be ascertained, the first case of yellow fever in 1878 was a Miss Irene Wilson, who came on the cars from the fourth district of New Orleans, where the fever was then prevalent, and visited relatives half a mile south (below) town on the 10th of August, and was taken down on the 17th; had all the characteristic symptoms of yellow fever, and died on the 26th August. There were some doubts with many as to whether hers was a case of yellow fever, especially as none of the family or attendants were attacked till long after, when the disease had become general from another source of infection at the extreme upper end of the town, or rather over the Bayou La Fourche beyond the town. Miss Wilson's body was taken into the Catholic church and carried thence to the cemetery, and her funeral was attended by several people. About five or six weeks after her death there were five cases of yellow fever in families living very near the house where she died, in Mr. Brewer's family. Mr. Brewer was tax assessor and had been exposed in other places where the fever was present, and the supposition is he carried the infection into his family. The second case was a mulatto woman who came from an infected part of New Orleans and was taken sick on the trip, on the cars, on the 25th August, 1878; recovered. She was in the house of her sister here and nursed by her, and two weeks after the recovery of the New Orleans woman this other was taken sick. She was also mulatto; recovered. The principal source of infection was an Italian lugger (vessel), the owner of which, a fruit vendor in New Orleans, had died on the lugger in New Orleans with yellow fever, and the vessel was bought by one Bep, a Genoese, a resident of Donaldsonville, and was brought up to Fort Barrow, immediately above the mouth of Bayou La Fourche.

Plaqueum embraces in its corporate limits over half a mile each way, fronting on the river and on the bayou. The land is perfectly level; the streets run from the river and are crossed at right angles by others running parallel with the river; all are ditched on each side, and the drainage is back to the plantations and large ditches in them which drain the water rapidly back to the woods and swamps, the highest land being immediately next the river. Population is 1800, consisting of creole French, Americans, and a large proportion of negroes. Buildings are generally made of wood, only a few of brick. No pavements in streets, and only small places in side-walks paved with brick; these all protected from sun and rain by board awnings. The water used for drinking and cooking is rain water, kept in wooden tanks above ground. Ice is used freely. There are no wells; the rain water is used when cisterns are exhausted, garbage and excreta are hauled off in carts and dumped beyond town. No fever of suspicious character has been seen. Last year, in July and August, there were a great many cases of bilious and remittent fevers before the yellow fever appeared. The first case of yellow fever occurred in a Miss C. Retta, and at the same time Dr. Postell's wife was seized, both August 1, 1878; both recovered; simultaneously almost with these there were other cases in other families. There were about 1,000 cases in all, and negroes were attacked as well as creole French and Americans. A branch of the Howard Association was organized, and medical aid, medicines, and other necessities supplied the poor. There were about 340 deaths during the epidemics.

PENSACOLA, FLA.—Inspector Dr. J. D. Palmer, August 14, reports as follows:

The quarantine grounds are about five miles and a half or six miles from Pensacola. Vessels are brought to anchor there, and the quarantine physician makes a thorough investigation of all craft coming in—examines everything relating to sanitary measures, and musters the crew, and each one is identified. The log is also examined, and if any suspicion is attached to anything relating to the furtherance of health, due notice is taken of it. Infraction of quarantine regulations is so severely dealt with here that there is no danger of the rules being disobeyed. Should they pass the station, however, a guard-boat—an old monitor—stands very threateningly, a mile above the station, with instruction to fire into any vessel attempting to evade the laws.

Pensacola has a large amount of shipping, and, owing to the beautiful harbor and great depth of water, the largest ships come in with ease. There are large milling interests here, which give a demand for vessels. So far as sanitary rules are concerned, the city authorities are vigilant and strenuous in their efforts to keep the city clean. Owing to the very low condition of the land throughout the city, and the fact of there being only surface drainage, and that of an inferior nature, the city, with an expenditure of a few hundred dollars, might be greatly improved. The water supply is good and pure. The system is the force-pump, and in many instances the pumps extend sev-

enty or eighty feet into the ground by means of connecting pipes. The flow of water is constant, keeping the pumps well washed out, and in this way avoiding any accumulation of deleterious deposits. The water-closets are above ground, and are somewhat after the dry-earth system. They are frequently removed, and consequently not of any danger. The garbage and trash generally is removed three times a week.

The authorities of Pensacola seem very desirous of preventing the introduction of any contagious or infectious disease, and the board of health, which is greatly influenced by the National Board, is an efficient body. From the infected ports there is no communication whatever, and the rules of quarantine are vigilantly exacted.

SAN LUIS PASS, MOUTH OF SAN BERNARD.—Inspector Dr. John H. Pope reports as follows, August 19:

San Luis Pass is the entrance from the Gulf of Mexico to Galveston Bay, between the west end of Galveston Island and the peninsula. The water is from eight to fifteen feet deep, and there is good anchorage inside. There is only one settlement near here, that of Captain Follett, on the peninsula. It is 30 miles from the city of Galveston, mouth of the Brazos River, is 15 miles by land, and 21 by the bays and canal, southwest of San Luis Pass. The village of Velasco is on the east bank, and the village of Quintard is on the west bank of the Brazos, near the mouth. The two places together contain about 25 houses and 125 inhabitants. There is also, during the summer, a transient population of 20 to 50 from the towns in the interior, sojourning here for benefit of sea-shore. There is but one small store-house, doing only a retail trade. The post-office for both places is at Velasco. Yellow fever was brought to Velasco from New Orleans in 1853. There is a steambot (the *Thomson*) making weekly trips from Galveston through the bays and canal to Velasco, and landing on the Brazos as high up as Columbia. Coming vessels from Galveston and the Calcasieu country (Louisiana) also enter here, with general merchandise and lumber. Brazoria, the county seat, is 21 miles up Brazos River from the mouth. Columbia is 10 miles above Brazoria. There is a railroad from Columbia to Houston.

Mouth of San Bernard is ten miles down the Gulf beach from Quintard. There are only two houses at this point, and they are about a mile from it, since the destruction of the village by a cyclone in 1875. The river is about 80 feet wide, and 4 to 5 feet deep at the bar; the depth depending on the tide and the direction of the wind. This stream is navigable for about 80 miles. Quarantine at San Luis Pass, mouth of Brazos and mouth of San Bernard, is under control of the county court of Brazoria County.

CASES AT BUNTYN STATION.—Inspector J. W. Ross, September 3, 1879, reports the following facts in regard to these cases:

Buntyn Station is five and three quarter miles east of Memphis, Memphis and Charleston Railroad. About five weeks ago Mr. Moore, of Buntyn, carried from the city to his house two grandchildren, one of whom is said to have been suffering from a mild attack of yellow fever at the time. Three days later the other grandchild developed the same disease, and twelve days later it attacked a little son of Mr. Moore. Since then the following cases have occurred in rapid succession, viz: Mr. Moore, Mrs. Moore, their two children, three negroes, named Hardison, Mr. Honck, Mrs. Honck, and their two children. The houses of the Moores, Hardisons, and Honcks form an equilateral triangle, the sides measuring about two hundred yards. The negroes have been working, washing, &c., for both the Moores and the Honcks. The latter family has also been receiving frequent visits, dry goods, &c., from Memphis.

There is also a case of yellow fever on the Pigeon Roost road, five and one-half miles east by south from Memphis, and two miles from Buntyn. The patient is a young lady, Miss Foster, whose brother and brother-in-law come into Memphis almost daily. She was visiting at the Honcks last week, just before the disease appeared in that family. There is a negro woman sick with yellow fever one-half mile from Buntyn, on the Memphis and Charleston Railroad, west. She was cooking for the Moore family until attacked, a few days ago. Colored protracted meetings are raging in and around Buntyn, Memphis, furnishing the preachers and a large part of the congregations. Had Memphis been picketed during the last six weeks, as it will be during the coming six weeks, I believe there would now be no yellow fever at Buntyn.

PROVIDENCE, R. I.—Inspector Dr. E. Harris writes as follows, August 20:

Providence presents us with certain sanitary problems so well treated that I shall use that city as a small and well-appointed model of good works begun in such manner that almost any city or populous village may usefully imitate the general plan on which those works have been projected. Four times has that city been infected by yellow fever upon a single extended area, and now it would be difficult to plant the infection upon that or any other portion of the city. The simplest kind of a quarantine system will protect against

any approach of yellow fever there. The construction of a substantial river wall of heavy flat stone, the entire extent of the water front of Providence, has removed a vast nuisance and dangerous source of disease. About five miles of such wall constitutes the commercial front of that city and affords a clean face and abutment for all the wharfrage and docks. The nearly forty miles of new sewers now discharge directly upon the harbor front, but are designed ultimately to be intercepted by a marginal sewer that shall convey the entire sewage several miles down the bay side and discharge into deep water.

FERNANDINA, FLA., August 16.—Inspector Dr. W. H. Elliot sends the following report, with copy of a quarantine ordinance passed by the local board of health April 30, 1879:

The quarantine establishment consists solely of a boarding station designated by a yellow flag hoisted at the end of a wharf. It is located on the west shore of Amelia Island, half a mile north of "Old Fernandina," and a mile and a half distant from the city of Fernandina. Coastwise steamers are allowed to come up and are boarded at the city wharves; all other vessels are examined at the boarding station. The rules and regulations of the National Board were adopted July 23, 1879. Prior to this anxiety began to be felt lest yellow fever should slip through the quarantine. It was due to a widespread belief that yellow fever in 1877 was due to importation. The feeling culminated in a petition to the Board of Health to make the quarantine ordinance more stringent in regard to the classes of vessels specified. This petition was signed by thirty-one individuals and firms, representing the intelligence and wealth of Fernandina. At a meeting of the Board of Health held August 7, 1879, the quarantine ordinance was amended as follows:

"That during the season of quarantine no vessel arriving from an infected port or place where contagious or malignant diseases exist, or from any or either of the ports mentioned in or referred to by section 6 of said ordinance, and no vessel upon which there shall be found any disease of an infectious or malignant character, or upon which there shall have been such disease since the departure of such vessel from her last port, shall be permitted to leave the quarantine ground to approach the city of Fernandina until the occurrence of frost, and quarantine shall be declared removed by the board of health of said city; and any vessel which, within thirty days prior to her arrival, shall have held communication with any ship or vessel upon which there existed at the time diseases of an infectious or contagious character, or with any ship or vessel from an infected port, shall be quarantined fifteen days and fumigated before being permitted to approach the city. This ordinance to go into effect from the date of its approval, and all ordinances and parts of ordinances in conflict with the provisions of this act are hereby repealed. Rules waived and ordinance passed in council August 7, 1879."

This change in the ordinance amounts to exclusion of the classes of vessels mentioned, but it will work comparatively little injury to the commerce of this port. The action of the board of health seems to be at variance with the spirit of the rules of the National Board in making a too general application of the term "infected" and in substituting *detailed* vessels in place of *discharge and purification*. The municipal authorities and this community are anxious to have the co-operation of the National Board in the establishment and regulation of quarantine, and I am satisfied that a quarantine properly equipped and administered strictly according to the National "Rules and Regulations" would have their confidence and support.

Dr. Elliot remarks:

In examining the chart with a view to a proper location for a quarantine station it is seen that Cumberland Sound serves as a common entrance to Saint Mary's and Fernandina Harbors. This sound is inclosed by the points of three islands, Amelia, Tiger, and Cumberland; the two former being in Florida and the latter in Georgia. The present boarding station on the north end of Amelia Island is conveniently situated, but is open to the objection that isolation from Fernandina is impracticable. The only available high ground on Tiger Island is dangerously near to Old Town. The south end of Cumberland Island possesses all the essential requisites of a quarantine station. It is isolated by nature, being separated from the rest of the island by an extensive marsh. Its sanitary condition is favorable. It is exposed to the sea breeze in summer and its western shore is well sheltered from the northeast gales.

The only drawbacks are, first, the vessels entering the harbor of Fernandina from the ocean will have to diverge about one mile out of the direct course, and, second, the existence of shoal water for a considerable distance from the shore renders a long wharf necessary.

This location is also the best site for the quarantine for Saint Mary's as well as Fernandina, and one establishment is sufficient to guard the commerce of both cities. The average number of foreign arrivals at both ports will not exceed one hundred a year, and domestic not over three hundred and fifty. To prevent conflict of powers between municipal authorities and to avoid legal complications which may be caused by the location of a quarantine in a different State from one of the ports it is designed to serve, I suggest the propriety of making an effort to have the entire control of this establishment placed in the hands of the National Board of Health.

SANITARY WORKS AT JACKSONVILLE, FLA.—Dr. A. S. Baldwin writes, September 6, 1879, as follows:

Last year we reclaimed two low marshy places lying on the borders of the city, by filling up with earth and providing a system of sub-soil drain-pipes, which were discharged into a sewer extending to the river; and this year we have made some additions of drain-pipes, silt-basins as wells for receiving surface-water, and have done some further filling in some places. What a little over a year ago was an unsightly morass, the generator of malaria and mosquitoes, is now a beautiful plain covered with a luxuriant vegetation, and most of it occupied by dwellings whose inmates are as healthy as in any part of the city. The operation has been a success in a sanitary point of view. Our city authorities, by the vote of the electors, have appropriated for sanitary purposes \$250,000, and have placed the funds and the work under the charge of five trustees elected by the people, who are to hold their office for twenty years from the 15th of January, 1881, and all vacancies which may occur in their number are to be filled by the board; so that the constantly shifting views of political members of our municipal council cannot embarrass or stop our work during its construction. The trustees have now under contract the erection of water-works, including pumping machinery, capable of discharging 3,000,000 gallons per day, which is to be distributed by iron pipes varying from six to sixteen inches in diameter. Last summer the trustees instituted a series of explorations for the purpose of finding a sufficient supply of good water from subterranean sources, which was attended with success, and a well of fifty feet in diameter has been sunk to the rock thirty feet below the surface, in which rock was found an abundant supply of pure soft freestone water, which we propose to open and supply the well. In case this supply should not be adequate to the wants of the city, our examinations last summer discovered three other independent sources of supply that can, if necessary, be added to this. The greatest depth bored was 300 feet, from which depth water rises in the pipe above the surface of the ground and flows over. A more copious stream was struck at the depth of 238 feet. From this the water rose about ten feet above the surface. From these various sources a beautiful supply of pure water can be obtained that can have no admixture of surface drainage, or even atmospheric contamination, for it will be received into a close-covered well, and from thence pumped into close iron pipes and distributed throughout the city. The present length of pipes to be laid, and now under contract, is 42,500 feet; and the test required of the pumping machinery is the ability to throw, simultaneously, ten streams through 1-inch nozzles 100 feet high in any part of the city. In addition, the trustees have contracted to have laid 32,536 lineal feet of sewers, ranging in diameter from eight to twenty inches, of best terra cotta pipe. A uniform line of bulkheads has been established along our river front, through which the sewers are to be discharged, so that the tides and currents of the Saint John's River will have the power to sweep the sewer discharge into the currents, and thus prevent any deposit upon the shores in front of the city. The depth of the river here is from thirty to eighty feet.

Another improvement which the trustees have under their charge, and which is likewise under contract, is giving a uniform width and depth to the channel of a creek that runs in a circuit nearly around the city, leaving marshy margins. This will be made a tidal canal, with its banks reclaimed and made dry. And the mouth of another creek, on the west side of the city, is to have its channel dredged out and its banks built up and straightened, so that there shall be a free entrance and discharge of its waters into the river. Both of these will be used for purposes of transportation and navigation for small craft. Thus will all sources of malarial emanations be removed; the extinction of cesspools about our dwellings; all privies will be changed to either dry-earth or water closets. More attention to sub-soil drainage than hitherto will be insisted on by the health authorities, so that the superstructure of sand, which now contains organic matter, will, by the rains filtering through, carry down the impurities with which the soil is more or less saturated, and be carried off by the tile drains, and discharged through the sewers into the river, and will leave the soil around our dwellings free from the contaminating influences so fruitful a cause of disease.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, SEPTEMBER 20, 1879.

[No. 12]

INTERNATIONAL SANITARY LAW.

The subject of international law is now attracting much attention throughout the civilized world. The growing interest manifested in the duties and obligations of nationalities to each other derives its chief stimulus from the increasing intimacy which characterizes all their relations. Rapidity of communication has brought all civilized nations into a brotherhood not less intimate than that which formerly existed between contiguous states. Hence the necessity of international, as of inter-State laws, promotive or protective of those great commercial, civil, political, and judicial interests which are common to both or to all states. It is certainly for the welfare of all nations that a murderer should be arrested and suitably punished, and hence this common enemy of the race finds no shelter to protect him from the avenging hand of justice. Whichever way he flees he finds pursuers, and everywhere on earth human governments are leagued to arrest his course and bring him to the executioner's block.

In all the discussions of international law, nothing has yet been said or written to elucidate the relations which nations should maintain toward each other in the control, arrest, and final extermination of diseases transportable from one country to another, and which are the common enemies of the race. It may with great propriety be asked, Why should cholera be allowed to travel around the world unmolested, slaying its thousands in every climate, while the murderer finds every man's hand raised against him? Why should yellow fever find a safe retreat in a neighboring harbor, from which it sallies out when the season is propitious, and, embarking on the departing vessels, spreads death and ruin far and wide among other nations? The only charitable reason which can be given for such supineness on the part of existing governments is ignorance of the methods to be pursued to prevent these great national evils. The United States Government, the last to organize a central sanitary authority, has been the first to strike a fatal blow at vagrant pestilences. But, to render her efforts effective, she must seek and obtain the co-operation of all civilized nations. Acting upon a common basis, this international league will give no quarter to these foes, wherever they may be found, and thus effectually control their movements if it does not finally exterminate them altogether.

Postscriptum.—Since the above was put in type our attention has been directed to a notice in the *British Medical Journal*, for August 23, 1879, of a paper read by Sir Sherston Baker, Bart., at a conference of the Association for the Reform and Codification of the Laws of Nations, on the international rules of quarantine, in which paper the

writer propounded a scheme setting forth that an international bill of health might be granted by the local authorities of the port of departure to every vessel, to be delivered up by the vessel at the port of destination. The scheme further contained the following provisions:

"The bill of health should be *risé*d at the port of departure by the consul representing the port of destination, in such terms as he might think fit; and a similar *risé* should be required at every port touched at, both from the local authority and from the consul representing the port of destination. A foul bill of health, or a case of disease, past or present, on board, or the fact of any port having become infected within a limited time after the departure of a vessel from it, should entitle the local authority of the port of arrival to place the arriving or touching vessel in quarantine, according to a certain scale, containing a maximum and a minimum period of quarantine," &c.

It is gratifying to find that the example set by this Board, in regard to rules and regulations for securing the best sanitary condition of vessels, including their cargoes, passengers, and crews, coming to the United States from any foreign port where any contagious or infectious disease exists, has engaged the attention of intelligent sanitarians in other countries.

CIRCULAR No. 7.

The following rules govern the action of the National Board of Health at present in aiding state and local boards to enforce regulations of such boards preventing the introduction of contagious and infectious diseases into the United States, or into any one State from another:

1. The regulations to be enforced are those of state and local boards, whether adopted at the recommendation of the National Board or otherwise, and not those of the National Board. The National Board has recommended certain regulations for adoption by state and local boards. Up to the present time these recommendations have been adopted by the following boards, viz:

The state boards of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, New Jersey, North Carolina, and Tennessee; the local boards of Brunswick, Ga., Brownsville, Tex., Bayou Sara, La., Cairo, Ill., Carlinville, Ill., Decatur, Ala., Delhi, La., Ferdinand, Fla., Huntington, Tenn., Jacksonville, Fla., Lauderdale County, Mississippi, Meridian, Miss., Mobile, Ala., Pensacola, Fla., Shelbyville, Tenn., Saint Louis, Mo., Tampa, Fla., Vicksburg, Miss.*

The regulations of the above-named boards are therefore to a certain extent uniform, and approved by the National Board, and therefore are such as it will aid in enforcing when necessary.

State and local boards which have not adopted the recommendations of the National Board are requested to do so as soon as convenient, in order to secure uniformity of action.

It should be observed that these recommendations are for a minimum amount of precaution, and therefore that

additional precautions may be taken by state or local boards if deemed necessary, it being borne in mind all the while that the end in view is to secure or restore the public health by measures which interfere with travel or traffic as little as possible; in other words to render commerce *secure*; and (with rare exceptions) *not to put an end to, or even suspend it*. In this connection it is proper to add that non-intercourse quarantines, especially by *local* authorities, are not approved by this Board.

2. Applications to the National Board of Health for aid should be made by or through the state board; or in case there is no state board, then by or through the Governor of the State.

3. Applications for aid should give *details* of what is required, and the estimated cost for each item. Amongst other things should be specified the duties and powers of the officers whose appointment or payment is requested.

4. The application should be accompanied by an official certificate from the Governor of the State or the mayor or other chief officer of the municipality, respectively, to the effect that there are no state or municipal funds available to carry out the particular sanitary measures because of which the application is made. Official information should be given therein of the adoption by such state or local board of any rules and regulations that have been recommended in such case by this Board, and of any other state or local rules and regulations that appear to be necessary for the purpose in question.

5. Of the supplies required for the sick those furnished by this Board to local authorities shall, as a general rule, be applied to other objects than those of shelter and furniture, which should be furnished by such authorities. Where however it shall be otherwise ordered the local authorities will be expected to account to this Board from time to time for the safe-keeping and proper use of the furniture, provisions, medicines, &c., so furnished.

6. Whenever this Board shall order the erection of temporary buildings, or provide any buildings for the purpose of quarantine, the necessary contracts therefor shall be made by one of its own officers or agents, subject to the approval of the Board or of its executive committee.

7. Care should be taken that the officers to be paid from funds furnished by the National Board are employed only in such number and for such time as there is actual need of their services. The National Board of Health reserves the right of judging from time to time, by means of reports received from its own agents, whether such need exists.

8. Funds are not furnished by the Treasury to state or local boards. They are placed in the hands of the disbursing clerk of the National Board of Health, by whom bills, properly certified and approved, will be paid by check on Washington or New York. All bills must be in accordance with the estimates as approved by the Secretary of the Treasury, must be made out in duplicate on forms furnished by the National Board, and be *certified*, as to their correctness, by some authorized officer of the

state board or by the Governor of the State, and must be approved by some member or special inspector of the National Board duly authorized.

The names of all persons whose services as inspectors, &c., are to be paid for out of its funds must previously to their appointment be submitted to and approved by the National Board.

It is expected that at the close of the season a full report will be made by state boards of health to the National Board as to their operations in carrying out those rules and regulations for the prevention of the spread of yellow fever, in which the National Board has rendered aid and co-operation, and it is desired that copies of all orders issued from time to time to inspectors shall be promptly furnished to this Board.

It is to be remembered that a full account of its expenditures must be made by the National Board of Health to Congress, and that such account ought to set forth these expenditures in detail, and exhibit their propriety and necessity.

It is therefore essential that state and municipal boards shall co-operate with the National Board in supplying material for such an account, and it is earnestly desired that they will preserve and furnish due evidence of the propriety of each item of their expenditure for both persons employed and articles purchased with the funds in question; particularly as the future aid of both State and National Boards must depend largely upon the record for efficiency and economy made during the year now current.

Others have been announced from time to time in the BULLETIN as having adopted the rules and regulations of the National Board.

THE YELLOW FEVER.

NEW ORLEANS NOT INFECTED.—Dr. S. M. Bemiss, a member of the National Board of Health on special duty in New Orleans, having reported, under date of September 16, that there was no case of yellow fever in that city except one convalescent in Toure Infirmary, from Morgan City; that there had been no new case since September 3, and that all the health authorities had given pledges to keep hygienic precautions well executed, and to give information of any danger which might possibly arise, the following telegram was sent in reply from this office:

"We do not now consider New Orleans infected nor that quarantine against her is necessary. The utmost promptness and frankness in reporting cases which are only suspicious should be observed in future."

JACKSON, MISS.—Dispatches from Dr. J. B. Pease, of September 14 and 15, announce yellow fever fully developed at Concordia, Bolivar County, Mississippi: 10 cases and 4 deaths reported, and request made for a physician and 1 nurse. September 15.—Two new cases at Concordia.

NEW ORLEANS, September 11.—Inspector Dr. S. S. Herrick sends report in detail of sanitary work done in New Orleans.

LITTLE ROCK, September 15.—Dr. A. L. Breysacher reports, from the medical inspector at Helena, 10 cases of yellow fever at Carson's Landing, Miss., 60 miles below Helena.

NEW ORLEANS, September 10.—Four new cases at Morgan City; well isolated and disinfection attended to. September 12.—Two new cases at Morgan City.

HAVANA, September 10.—Consul Hall reports brig *Fanny H. Jennings*, barks *Madras* and *Anne Elizabeth*, for New York, had yellow fever on board while here.

HELENA, ARK., September 15.—This city has adopted the rules and regulations recommended by the National Board of Health.

PORT AU PRINCE, HAYTI, August 29.—Consul Arthur Bird states that early in May very fatal, "pernicious," and contagious fevers appeared in several parts of Hayti, abating about May 15. A month later the disease reappeared and spread to the shipping at Port au Prince, where the French bark *Marie* lost her captain and entire crew of twelve men. The fever again subsided, but broke out again among the shipping about the 4th of August. At the date of writing no case was known to exist in the city or harbor; but in view of the previous course of the disease, *feint* bills of health only are issued.

CHARLESTON, S. C.—Dr. R. Lebby, quarantine physician, reports, for the week ending September 6: British bark *Virginia*, Pugsley, crew of ten men, fifteen days from Point Petre, Guadaloupe, arrived September 1, in ballast, with clean bill of health. Sanitary condition not good; bilge-water offensive; detained at quarantine. American ship *Richard III*, Hubbard, fifty-seven days from Liverpool; captain's wife and three children and crew of nineteen men all healthy; vessel in good condition: admitted to pratique.

ABSTRACTS FROM CONSULAR REPORTS.

Mr. Bingham, the minister of the United States to Japan, in transmitting to the State Department the report of the sanitary bureau of the home department, as published in the Japan *Mail* of August 5, states that up to the 11th of July, to which period the report extends, the whole number of persons attacked was 31,715; 18,017 of these died within that period, showing the rate of mortality to have been 56.73 per cent. Of the whole number of deaths, as above stated, but 60 are reported to have occurred in Tokio and Kanagawa (Yokohama). Omitting these two places and including the other places named in the table, where nearly the entire mortality occurred, their population is estimated at not more than 2,000,000 people.

In conclusion, Mr. Bingham observes that an examination of this official report shows that the entire mortality caused by Asiatic cholera occurred between the 23d of April and the 11th of July; and that from the 23d of May to the 11th of July, 5,031 persons died in the city of Osaka of this scourge, the whole population of the city being estimated at about 600,000. The rate of mortality was 77 per cent. of the persons attacked.

In another communication of later date (August 11), Minister Bingham incloses the following extract from the *Tokio Times* of August 9, 1879:

"A table of cholera statistics, carefully prepared by the home department, informs us that up to the 4th of August the number of cases reported in the entire country was 41,647. Of these 23,350 were fatal, 5,054 having been cured. Under treatment there were 13,243, and the percentage of mortality was 56.07. The *ken* most seriously affected was that of Osaka, where the number of seizures was 6,911, and the deaths 3,407. Other *ken* were visited in the following order of severity: Hiogo, Okayama, Yehima, Sakai, Ōita, Yamaguchi, Hiroshima, Wakayama, and Tokuoka, the last named having 1,291 cases and 474 deaths. In the remaining parts of the empire the epidemic had not obtained so strong a foothold, but its growth in this particular vicinity was undoubtedly becoming rapid. Until the 26th of July there had been only 82 patients in Tokio and 9 in Kanagawa *ken*. By the 4th of August there had been 218 attacks and 135 deaths in Tokio, and in Kanagawa 192 attacks and 98 deaths. The percentage of fatalities in Tokio was 54.14; in Kanagawa 51.04. It is in consequence of these serious increases that the two places have been declared 'infected,' as is more particularly explained in an article on another page of this paper."

DISINFECTION OF MAILS BY DRY HEAT.

Inspector W. B. Winn, M. D., under date of September 8, gives the following account of experiments at Memphis on the disinfection of mails by dry heat:

Thursday, September 1, the oven was adjusted, and old newspapers, letters, and mail-bags were placed in the hot-air chambers. After maintaining a temperature of 250° F. for thirty minutes, the papers and letters were found badly scorched; the mail bags were uninjured. The failure here ascribed to draughts of air, the experiment was repeated, in-doors, the next day. At this trial the regular mail was exposed to a heat of 250° F. for one hour, without damage to any part thereof.

On Saturday, the sanitary policeman, who had witnessed the previous experiments, was placed in charge, and succeeded in burning a lot of newspapers and two mail-bags, sizes Nos. 3 and 4. This mishap was due to the manner in which the mail matter was disposed.

Twenty-two sacks full, together with the bags, were crammed into the oven at once. The result was that the lower chamber became very hot, while only a portion of the hot air could enter the upper one. The thermometers are so arranged as to indicate the temperature of the upper chamber alone. When the burning occurred the thermometers registered only 213°; not one of the bags nor any portion of the mail in the upper chamber was injured.

Under proper supervision, and with due care, there is no danger of injury to the mails.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

SAINT LOUIS, Mo.—Inspector Kilpatrick writes as follows in regard to the sanitary condition of this city, September 11, 1879:

Saint Louis is situated on elevated ground, gently undulating and occasionally rising into steep hills, thereby providing good natural surface drainage. There are strata of limestone rock at various depths. In the sparsely settled portions of the city "sink-holes" are numerous; and in the more compactly built sections these holes have been filled with every conceivable material, foul and otherwise. Where the holes are yet open, they are the receptacles of much of the drainings from the streets; some retain the rain-water and form ponds. They vary in size from 10 feet in diameter and 4 or 5 in depth, to several acres of area and a depth of twenty feet. The danger to health from these "sink-holes" is fully understood by the people, but their number and magnitude deter the authorities from undertaking the filling of them, except as the space they occupy is called into requisition by the increase of population. Where the cavities retain water it is allowed to remain stagnant during the winter and spring, and when, in summer, complaints are made, the water is drained off, leaving the reeking mud exposed to the sun. This is more insubstantial than the water, and instead of draining, more water should be pumped into the pools in summer. There are one hundred and ninety miles of sewers in the city and more are constantly in process of construction. The *main* is the largest in the world, being 15 feet deep and 20 feet wide; two sewers are 10 by 11 feet and one 12 by 12 feet; an error in their construction is having them to empty into the river within the city limits. The various hospitals and asylums are models of neatness, cleanliness, and systematic discipline, and their officers deserve credit for their able management.

Report of inspecting (quarantine) station at Polk's Landing, near Commerce, Tunica County, Mississippi, by Inspector Dr. C. A. Rice, September 8, 1879:

This place is 35 miles below Memphis. No boats are allowed to land between here and Memphis. Boats bound south only are inspected. The following boats have been inspected here, none of which had any sickness on board: August 25, *City of Vicksburg*, 63 persons on board. August 30, *John R. Mandl*, 81 persons. August 20, *Hard Cash*, 40 persons. August 31, *J. G. Garrett*, 14 persons. September 2, *John A. Scudder*, 115 persons; *City of Greenville*, 105 persons; *Rafe Dixon*, 16 persons; *H. F. Halliday*, 33 persons. September 1, *Gold Dust*, 76 persons. September 6, *Grand Tower*, 122 persons. Total, 711 persons and 10 steamboats, all of which were in fine sanitary condition. The officers of these boats were anxious to have them inspected, and rendered all the aid in their power. There are others, however, who wholly disregard a hail and pass on, some flatly refusing to land. Some tow-boats, with heavy tows, cannot check up, but refuse to send out a yawl, which they could do.

The following boats have passed this station without landing: August 26, steamboat *Commonwealth* refused to land for inspection and afterward landed at Vicksburg. August 29, *John Gilmore* went 14 miles below and landed; *U. S. Stannard* landed at Vicksburg. August 30, *Paris Brown* landed at Vicksburg. September 3 and 4, tow-boats *E. M. Norton*, *John B. Williams*, and *John J. Wood*; September 1 and 6, steamboats *H. C. Voeger* and *Golden Crown*, making 9 boats which have passed without inspection. Unless some means be adopted to compel boats to stop, we may yet have yellow fever landed all along the river. The officers of these boats must have felt that they could not stand an inspection. We are now prepared to care for any case of yellow fever that may be left with us.

MOSCOW, TENN.—Inspector Dr. E. M. Wight writes as follows, under date of September 9:

At this place occurs the second transfer on the Memphis and Charleston Railroad. It is 39 miles from Memphis, and 33 from Buntyn's, the first transfer station. The only cars allowed to pass from Moscow to Memphis are flats, with paving stone about six cars per week. To-day a dozen crates of chickens and some boxes of goods for the "Howards" were transferred here, and again at Buntyn's, for Memphis. No passengers have passed in violation of the rules. The state board of health contemplates putting an inspector on the train from Grand Junction to Buntyn's, which would be very desirable.

Report of mortality in cities of the United States for the week ending September 6, 1879—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrhoeal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Peripneumonia.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Wis.... Milwaukee.....	124,000	27	44	15.4	.....	2	.....	3	.....	2	.....	.....	1	.....	.....	1	1	.....
Minn.... Saint Paul.....	51,000	5	8	8.1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
..... Minneapolis.....	52,000	10	16	16.0	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Iowa.... Keokuk.....	15,000	1	2	6.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mo.... Saint Louis.....	500,000	48	111	11.6	.....	12	21	1	1	3	5	.....	.....	.....	.....	.....	1	1
Nebr.... Omaha.....	30,000	7	12	20.8	.....	4	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cal.... San Francisco.....	300,000	30	86	14.9	.....	7	6	.....	1	7	1	.....	.....	.....	.....	4	.....	.....
Totals.....	7,361,110	1,238	2,636	18.7	17	338	411	62	7	116	51	1	19	43	.....	65	33	3

Charleston has 25,000 white, 32,000 colored; deaths, 6 white, 11 colored. Rate per 1,000, white, 12.5; colored, 17.9. District of Columbia has 106,000 white, 54,000 colored; deaths, 42 white, 21 colored. Rate per 1,000, white, 20.6; colored, 23.1. Nashville has 17,355 white, 3,500 colored; deaths, 10 white, 1 colored. Rate per 1,000, white, 20.6; colored, 38.4. New Orleans has 135,000 white, 55,000 colored; deaths, 53 white, 45 colored. Rate per 1,000, white, 17.8; colored, 40.7. Norfolk has 14,067 white, 9,913 colored; deaths, 5 white, 17 colored. Rate per 1,000, white, 18.5; colored, 29.4. Richmond, Va., has 46,000 white, 31,000 colored; deaths, 13 white, 17 colored. Rate per 1,000, white, 14.7; colored, 26.0. Savannah has 17,493 white, 15,163 colored; deaths, 8 white, 14 colored. Rate per 1,000, white, 23.8; colored, 18.1.

YELLOW FEVER.

The following reports for the week ending September 6 are from cities not known to require burial permits:

Allegheny, Pa., population 75,000; deaths 27; diarrhoeal 5, diphtheria 4, measles 1, pneumonia 1, typhoid fever 2, whooping-cough 1; deaths under 5 years 14. Ann Arbor, Mich., 7,529; deaths 3; under 5 years 1; consumption 1, diarrhoea 1, lung disease 1. Augusta, Ga., 26,874; deaths 10; under 5 years, 3; consumption 1, diarrhoea 3, lung diseases 1, small-pox 1. Aurora, Ill., 14,550; deaths 3, all under 5 years; diarrhoea 1. Bath, Me., 10,000; deaths, 14; under 5 years; diarrhoeal 2, consumption 1. Battle Creek, Mich., 7,500; no deaths. Beloit, Wis., 5,000; consumption 2. Benton County, Miss., 11,000; deaths 2; malarial fever 1, puerperal fever 1. Binghamton, N. Y., 18,000; deaths 2; under 5 years 1; diphtheria 2. Bridgewater, Mass., 3,900; typhoid fever 1. Burlington, Iowa, 20,000; deaths 3; under 5 years 1; typhoid fever 1, croup 1. Carrollton, Miss., 600; no deaths. Chattanooga, Tenn., 12,000; deaths 7; under 5 years 5; diarrhoeal 2, cerebro-spinal fever 2. Columbus, Ga., 10,000; deaths 7; under 5 years 2; measles 1, whooping-cough 1. Crystal Springs, Miss., 1,000; no deaths. Davenport, Iowa, 25,000; deaths 7; under 5 years 3; diarrhoeal 2, measles 2, typhoid fever 1. Decatur, Miss., 1,000; typhoid fever 1. Dubuque, Iowa, 20,000; malarial fever 1. Edgartown, Mass., 1,700; no deaths. Fayette, Miss., 200; no deaths. Flint, Mich., 10,000; diarrhoea 1, under 5 years. Franklin, Tenn., 1,800; no deaths. Grand Rapids, Mich., 10,000; deaths 7; under 5 years 4; cerebro-spinal fever 1, diarrhoea 1, diphtheria 2. Helena, Ark., 5,000; no deaths. Helena, Mont., 3,500; diarrhoeal 2, under 5 years. Hernandez, Miss., 1,200; no deaths. Indianapolis, Ind., 20,000; no deaths. Jackson, Miss., 5,000; no deaths. La Salle, Ill., 6,000; deaths 5; under 5 years 3; consumption 2, diarrhoeal 2, typhoid fever 1. Louisiana, Mo., 5,000; deaths 3; under 5 years 2; diarrhoea 1. Madison, Ind., 12,000; deaths 7; under 5 years 3; cerebro-spinal fever 1, consumption 1. Marblehead, Mass., 7,500; deaths 3; under 5 years 1; consumption 1, pneumonia 1. Milford, Mass., 10,000; accident 1. Moline, Ill., 7,000; deaths 2; malarial fever 1. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; 1 death, infant. Murrensborough, Tenn., 4,000; no deaths. Nantucket, Mass., 3,000; deaths 1; consumption 2. Niles, Mich., 1,630; scarlet fever 1. Norwich, Conn., 17,000; deaths 2; under 5 years 1. Oxford, Miss., 2,000; diphtheria 1. Painesville, Ohio, 5,000; diarrhoea 1, consumption 1. Pass Christian, Miss., 4,000; puerperal disease 1. Pensacola, Fla., 8,500; typhoid fever 1. Peoria, Ill., 40,000; deaths 7; under 5 years 3; diarrhoeal 1. Plymouth, Mass., 6,351; consumption 1. Portsmouth, Va., 11,000; deaths 8; under 5 years 6; consumption 1, diphtheria 2, lung disease 1. Poughkeepsie, N. Y., 20,000; deaths 5; consumption 1, typhoid fever 2. Quarantine Hospital, New York; 5 cases of malarial, and 2 of yellow fever; no deaths. Ripley, Miss., 1,000; no deaths. Rochester, N. Y., 30,000; deaths 27; under 5 years 8; cerebro-spinal fever 1, consumption 2, diarrhoeal 5, lung disease 1. Rome, Ga., 5,000; deaths 2; typhoid fever 1. Salt Lake City, Utah, 25,000; deaths 10; under 5 years 6; diarrhoeal 3, typhoid fever 1. Starkville, Miss., 1,163; deaths 2; under 5 years 1; diarrhoea 1. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 4,000; malarial fever 1, under 5 years. Vallejo, Cal., 5,000; no deaths. Verona, Miss., 1,000; no deaths. Waterbury, Conn., 16,000; deaths 6; under 5 years 2. Water Valley, Miss., 3,500; no deaths. Youngstown, Ohio, 17,000; puerperal fever 1.

NATIONAL BOARD OF HEALTH ROOMS are located corner Fifteenth and H streets, n. w.

MEMPHIS.—The following daily report of the progress of the fever at Memphis is continued from No. 9 of the BULLETIN:

August 30, 22 cases; 6 white; 9 deaths; 7 white. August 31, 38 cases; 6 deaths. Total deaths for the week, 51; 35 white, 16 colored. Total cases for the week, 171; 57 white, 84 colored. September 1, 20 cases; 7 deaths. September 2, 16 cases; 13 white; 5 deaths; 2 white. September 3, 28 cases; 13 white; 1 death; 3 white. September 4, 26 cases; 13 white; 6 deaths; 4 white. September 5, 27 cases; 12 white; 6 deaths; all white. September 6, 19 cases; 12 white; 10 deaths; 8 white. September 7, 17 cases; 9 white; 7 deaths; 5 white. September 8, 12 cases; 1 white; 6 deaths; 3 white. September 9, 25 cases; 15 white; 7 deaths; 5 white. September 10, 30 cases; 12 white; 10 deaths; 6 white. September 11, 16 cases; 7 white; 9 deaths; 7 white. September 12, 15 cases; 1 white; 5 deaths; 6 white. September 13, 21 cases; 10 white; 8 deaths; 6 white. September 14, 23 cases; 10 white; 4 deaths; 2 white. September 15, 1 new case; colored; 1 death; 3 white. September 16, 19 cases; 12 white; 7 deaths; 3 white; 2 deaths from other causes, both white. September 17, 23 cases; 11 white; 5 deaths; 3 white; 2 deaths from other causes. September 18, 9 cases; 5 white; 6 deaths; 4 white.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

LOWVILLE, N. Y.—Dr. Franklin B. Hough writes as follows in regard to the diseases of Northern New York:

As a general fact malarious diseases are unknown in this region; the few cases I have seen here were contracted elsewhere. Scarlet fever prevailed very generally last winter and in one family here five deaths occurred within one week. The disease still lingers here but in a mild form. By far the most common diseases are those of the lungs, especially in the winter months, arising from the vicissitudes of temperature. In several instances within my knowledge typhoid fever of intensely malignant type has appeared, confined to certain localities and associated with defective drainage, cess-pools near dwellings, or other local and removable causes.

BRUNSWICK, GA.—Dr. J. S. Blain writes, September 5:

The city of Brunswick is in very good sanitary condition, being entirely exempt from all diseases attributable to imperfect sanitation. Situated on a peninsula, with no streams or marshes of fresh water within several miles, and elevated but a few feet above the level of the sea, the city drains are cleared at each rise and ebb of the tide. The drains are open, and care is taken to permit no debris to accumulate in them. All work upon streets, drains, &c., requiring the disturbance of fresh earth is required to be done in the winter and spring months. All persons are required to keep their dwellings and other premises in a cleanly condition, no pits, sinks, or privy vaults being allowed. The city is singularly free from malarial diseases of a fatal type, no death from this cause having occurred within the past year. An epidemic of measles was introduced during the spring

from the rice plantations 12 miles distant, and a few cases were fatal. There was 1 death from scarlet fever during the month of August, this being the only death among the white population during that and the preceding month. At this date no serious illness of any kind prevails.

MERIDIAN, MISS.—Dr. J. R. Phillips writes, under date of September 6:

We have quarantined against Memphis and New Orleans. Three railroads terminate here and one passes through. The trains arrive at such hours that one inspector cannot attend to all, and an assistant has been appointed. Health and sanitary condition good, but all precautions taken. No case of yellow fever yet, and but 4 deaths from all causes in the past month.

CRYSTAL SPRINGS, MISS.—Dr. F. L. Fulgham writes, September 8:

The sanitary condition of this place is good. There is an organized board of health, but no appropriation made for sanitary purposes. The rules and regulations of the National Board of Health are enforced and a rigid quarantine maintained against Memphis and New Orleans. For the five months ending September 1 only 4 deaths reported from all causes, and none from zymotic diseases. For topography, &c., see report of Dr. Wirt Johnston, page 82.

ALEXANDRIA, VA.—Dr. E. A. Stabler, September 8, says:

The council has no law requiring the registry of births, deaths, and marriages. Efforts will be made at the next meeting of the council to procure the passage of such a law. The population is about 46,000; situation good for surface drainage, and the soil is chiefly clay. There are no sewers, and some imperfectly drained marshes exist in the northeastern part of the city. Typhoid fever is rare, and other zymotic diseases have not assumed an epidemic form during this summer. Malarial fevers occur chiefly in the suburbs and country, but are of a mild intermittent type.

INSPECTING (QUARANTINE) STATIONS IN THE STATE OF MISSISSIPPI.—Dr. C. A. Rice, writing from Polk's Landing, Miss., September 8, says:

The Mississippi state board of health has established quarantine stations at the following places: Michigan City, on the Chicago, Saint Louis and New Orleans Railroad at its northern limit in Benton County, Dr. George E. Redwood in charge, with one assistant sanitary inspector, one nurse, and one cook, six wall-tents, with bedding, &c.; at Corinth, in charge of Dr. J. M. Taylor; at Osyka, in charge of Dr. W. C. Warren; at Fort Adams, on the Mississippi River, in charge of Dr. Robert M. McGhee; and one at Polk's Landing, under Dr. C. A. Rice.

BURLINGTON, VT.—Dr. George M. Ockford writes, September 8:

The city has been exceptionally healthy during the past summer. Some diphtheria occurred among the tenement population, but the disease was not epidemic; measles in a mild form has been epidemic in some localities. The sanitary arrangements are generally good, the natural drainage being excellent, but the sewer connections and traps are defective. A ravine, in which is a running stream, traverses the city, and serves to some extent as a sewer. Being used as a dumping place for all of all kinds, this ravine would be injurious to health but for frequent heavy rains and the prevalence of high winds. The water supply is chiefly from Lake Champlain, and consequently it is abundant, but its quality is somewhat vitiated by the proximity of sewer outlets to the pumping pipes.

VERONA, MISS.—Concerning the sanitary condition of Lee County, Mississippi, Dr. R. C. Cunningham writes as follows, September 8:

The county is in the northern part of the State, from 275 to 305 miles north of Mobile Bay, and about 600 feet above the sea-level. It forms a parallelogram, 20 miles from east to west and 30 miles from north to south. The Mobile and Ohio Railroad passes from north to south nearly through the middle of the county. The country is gently undulating, the soil fertile, and drained by numerous small streams flowing south into the Tombigbee River. These streams are generally dry in summer, excepting pools in the deeper parts, but in winter many of them are navigable for steamboats. The water supply for drinking and cooking is chiefly from cisterns in the limestone rock, 15 to 20 feet below the surface, and from deep wells, some of which

are artesian. The general sanitary condition of the county is excellent, and it has seldom been visited by epidemic diseases. No case of yellow fever has been known in the county, though a good many refugees from Memphis were within our borders last year. Malarial diseases are by far the most numerous of those we have to contend with. There is a well-organized board of health for the county, which has adopted the rules of the National Board, with ample power to enforce them. We have quarantined the county this season from all places infected with yellow fever. There are six incorporated towns on the line of the Mobile and Ohio Railroad, and all have boards of health and quarantine regulations in accordance with those of the county board.

LIVINGSTON, ALA.—Dr. R. D. Webb, health officer, writes as follows, September 9:

The town is situated on a sandy plateau, the sand being from 14 to 15 feet deep and resting upon a stratum of cretaceous limestone, dipping to the southwest, giving a very complete surface and subseal drainage. The water supply is partly from wells penetrating to the rock, and these are, no doubt, more or less polluted by infiltration from the privies, which are without vaults or sewerage. But the chief source of supply is an artesian well, 1,950 feet deep, affording abundance of excellent water with valuable medicinal properties. It is slightly saline, holding in solution chlorides of sodium and magnesium, bromide of sodium, and bicarbonate of lime; its efficacy in certain chronic diseases, especially of the digestive organs and of malarious origin, has made this a place of some resort. The population is about 600, nearly equally divided between white and colored. No disease prevails, and there has been but one death (a negro child of 10 months) since January 1.

DARIEN, GA.—Dr. R. B. Harris makes the following report, September 9:

The city is at the mouth of the Altamaha River, upon a high and sandy hill, but surrounded by low and marshy grounds. On the south, just across the river, and on the west, are rice plantations; to the north and northeast there are many ponds with no outlets. Still, the city has been free from malarial fevers till the 15th of August, when the drying of the rice plantations caused many cases of bilious remittent fever. This source of disease is being removed by proper drainage. The rainfall for the past three months has been unusually heavy, causing much malarial disease in McIntosh County, but not of a fatal character. The city is in excellent sanitary condition, and no precautions are neglected. Privies receive a coat of lime every two weeks, and the vaults are disinfected with lime and copperas. All garbage is removed daily a mile beyond the city limits, and burned twice every month. The bark *Caspian* arrived at quarantine August 24, direct from Havana, with four cases of yellow fever on board. The crew were removed to the quarantine hospital, where the sick recovered, and no other cases have occurred since their arrival, now about fifteen days ago.

MINSTER, OHIO.—A letter from Dr. E. F. Wells, September 10, says:

This is a town of about 1,200 inhabitants, mostly German or of German descent. The people are engaged in trade and farming, and generally in comfortable circumstances. The town is on the Miami and Erie Canal, 117 miles north of Cincinnati, and is the terminus of a branch of the Lake Erie and Western Railroad. A large reservoir, water for the canal in spring and summer; in autumn the withdrawal of water leaves a large surface exposed to the sun, and malarial fevers then prevail. In 1877 diphtheria appeared in an epidemic form in town and country, and has since continued with only slight abatement. There is no board of health, but the town is improving in drainage and cleanliness.

SANITARY INSPECTION (QUARANTINE) AT CINCINNATI, OHIO.

Dr. Thomas C. Minor, health officer, gives the following account of the steamboat and railroad inspections at Cincinnati, Ohio:

The regulations of the National Board of Health regarding the sanitary management of southern sleeping cars are not enforced at this point for the reason that no sleepers from points south of Louisville are allowed to enter the city. No New Orleans or Memphis sleeping cars have entered or passed through Cincinnati since quarantine was declared. This move was made in the interests of Ohio cities and towns lying north and east of Cincinnati, and also to prevent any southern sleepers from passing on to Pittsburgh, Philadelphia, or New York. Stations Nos. 1, 3, and 6 are stations manned by quarantine inspectors, situated at equidistant points on the Ohio River wharves in front of the city, and are managed by four sanitary inspectors. These stations properly belong to the river quarantine. Telephonic connections enable the different stations to keep up communication

with the central office of the health department. This has been found to be a most convenient and economical arrangement.

In case sick patients are found on railroads or steamboats they are immediately taken in charge by the quarantine officers and removed at once to a special hospital situated outside the city limits. The baggage of all Memphis passengers entering the city by rail or boat is disinfected and fumigated before entering the city. Owing to the lengthened period of incubation in yellow fever a certain small percentage of Memphis people entering the city in apparently good health are taken down some time afterward, generally within a week, with the disease. Up to date, the present season, only 6 such imported cases have occurred. Five cases, as soon as discovered, were promptly removed and isolated in hospitals. One case was discovered in a dying condition at a hotel. All bedding, clothing, and household effects belonging to these parties were burned, and their rooms fumigated, disinfected, and closed for the season. The same plan was pursued last year in thirty-five instances. In no case last year or this was any tendency to the propagation of the disease manifested. It will be seen from this statement that the disease is treated as any other infectious or contagious disease would be treated by the boards of health in American cities. The only patient dying of fever in Cincinnati thus far this summer was a refugee named Hock, who endeavored to hide himself and avoided medical attention. The other five imported cases found are all rapidly convalescing. In other words, every case treated so far this season has recovered. No new cases have been imported into this city for the past fifteen days, or since the National Board of Health and Tennessee State board have taken charge of Memphis.

The sanitary condition of Cincinnati is probably better to-day than it ever has been. The streets, alleys, and sewers are clean, and no epidemic tendency of any kind is manifest. All the tenement houses of the city, numbering 5,616 and having a population of over one hundred and five thousand persons, were examined last May and placed in a good sanitary condition.

The street-cleaning department, including money for repairs, was voted \$248,000 for this year's expenses, and in addition \$10,000 extra was voted on the call of the health officer, by the common council, for the purpose of employing a larger force for the next six weeks. The amount of money advanced by the city of Cincinnati for the present year for this branch of sanitary work is therefore \$258,000. The city council also voted \$18,000 to the health department for special sanitary purposes, and in addition, on the call of the health officer, \$6,000 extra for defraying the ordinary quarantine expenses. The city does not propose to ask the government for money to defray its sanitary expenses for the present, at least. At this writing the sanitary outlook is bright, and so long as the National Board is able to keep the disease confined to Memphis no trouble is apprehended at this point, as the local health authorities will be probably able to manage the few imported cases that may possibly turn up during the fall.

All direct communication by rail with the South is by way of the Louisville Short Line or Ohio and Mississippi roads. Indirect communication can be had over the Kentucky Central, Indianapolis, or Cincinnati, Hamilton and Dayton roads. These lines, however, have given the health department a written agreement not to carry contraband freight, and are not much used by passengers from Memphis, the only southern city infected.

The Louisville Short Line runs through Kentucky and crosses the Ohio River at Newport, opposite Cincinnati. For the protection of Newport, Covington, and other Kentucky towns in the neighborhood of the city it is always necessary to run a corps of medical inspectors over this line. Four physicians are accordingly detailed for this duty, and the Louisville Short Line is under surveillance at all points between Cincinnati and Louisville. At the Cincinnati terminus of the road two sanitary inspectors watch the movements of freight. In addition to four Cincinnati medical inspectors the city of Newport also runs three medical inspectors over the Short Line, making a total force of seven quarantine physicians and two sanitary inspectors for this road. This station is marked No. 2 on the quarantine schedule.

Station No. 3 is on the Ohio and Mississippi road; has four medical inspectors and two sanitary inspectors. The former watch the movements of all passengers from Saint Louis, Cairo, and Louisville; the latter look after the transfer of freight at this point.

The following rules and regulations are in force at the railroad quarantines, and the annexed certificate is required from all conductors of passenger trains entering the city:

1. Every southern passenger train entering Cincinnati will be inspected by a medical officer of the health department, who shall examine the condition of passengers and baggage, and if satisfied with the result of his inspection shall give to the conductor of such train a certificate in accordance with Form 1, appended hereto.

2. It shall be the duty of the conductor to give the medical examiner all the information he requires regarding the residence and destination of his passengers, and such other information as may be solicited. Passengers will also be obliged to answer any questions that the examiner may deem necessary.

3. All baggage shall be inspected by the medical examiner, and in case he has reason to believe that the aforesaid baggage has been ex-

posed to infection from yellow fever, the conductor will see that such baggage is not allowed to enter the corporate limits of this city.

4. All sleeping cars or coaches from points south of Louisville are forbidden to enter the city of Cincinnati. Such cars or coaches must transfer their passengers and baggage three miles from the corporate limits.

5. All sick passengers, or persons having suspicious symptoms, are strictly forbidden to enter the city limits; and no certificate shall be issued to the conductor of the train if such passengers are found.

6. No household goods or effects shall be carried by passenger or freight trains from points south of Louisville.

7. No conductor of trains from points south of Louisville shall allow his train to enter the corporate limits without the certificate of the medical examiner.

8. Non-compliance with these rules and regulations will be considered as a violation of the quarantine act; and the presidents and officers of all railroad corporations will be held to a strict account for the same.

LOCAL QUARANTINE LAWS.

QUARANTINE ACT FOR PORT OF WILMINGTON, N. C.

SEC. 20. For the preservation of the public health, there shall be established, opposite Deep Water Point, near the mouth of the Cape Fear River, a quarantine station, where all vessels subject to quarantine shall be brought to anchor and await the inspection of the medical officer, and be subject to such rules and regulations as he may prescribe; and the rules and regulations so prescribed shall be made from time to time, as circumstances may require, by the quarantine medical officer and two physicians of skill and experience residing in the city of Wilmington, who shall be designated by the president of the State board of health, and they shall meet annually on the first Monday in May, or as soon thereafter as practicable, and organize for the purpose before mentioned by the election of a president and secretary; and it shall be the duty of the president to call meetings whenever any special emergency shall arise requiring new quarantine rules and regulations, and of the secretary to keep a record of all such proceedings. And they shall be entitled to compensation for their services at the rate of five dollars per day and their actual traveling expenses to and from such meetings: *Provided*, Said physicians shall not receive per diem for more than six days in the year, unless in case of prevailing epidemics.

SEC. 21. It shall be the duty of the governor to designate some physician of experience, who shall act as medical quarantine officer for the above station, and who shall prescribe such regulations as may be necessary for the protection of the inhabitants from infectious diseases; and all persons shall be bound by such regulations, under penalties to be hereafter designated. The quarantine officer shall duly advertise all quarantine regulations and cause the pilots to be especially notified of them. He shall make a monthly report of all receipts and disbursements, and shall pay over all moneys to the treasurer of the State, and shall be removable at the pleasure of the governor.

SEC. 22. There shall be provided for the use of the quarantine officer a suitable boat furnished with all necessary materials, and he shall employ a crew of four men at such seasons as quarantine regulations are in force or when the public health may require it. He shall cause the boat to be kept in repair and always ready for service, and may employ some competent person for this service, which shall be paid for out of the public treasury on the certificate of the medical officer that the services were necessary and the charges just and reasonable.

SEC. 23. There shall be established at the nearest convenient station upon the shore a hospital sufficient for the accommodation of such sick persons as the quarantine medical officer may direct to be removed from vessels for better nursing and attendance, and the medical officer shall employ such attendance as may be necessary to take care of the sick, and may purchase such articles of food as they may require.

SEC. 24. Every vessel subject to visit and inspection shall pay a fee of five dollars, which shall be collected and accounted for by the medical officer, and every sick person taken to the hospital shall pay a fee not exceeding three dollars per day until discharged by the medical officer, for the payment of which the vessel shall be responsible; and only such vessels shall be subject to visit and inspection as may be from ports designated from time to time by the medical officer, except that all vessels having sickness on board shall be brought to the visiting station for examination.

SEC. 25. It shall be the duty of all pilots to bring vessels to the visiting station, as they may be required from time to time by the quarantine officer, and they shall not take any vessel subject to quarantine or visitation past the station until released by the quarantine officer; and any pilot who shall willfully violate any quarantine regulations shall forfeit his branch or commission, and from thence be deemed incapable to act as a pilot in any port in the State.

SEC. 26. Any master of a vessel who shall refuse to obey the quarantine regulations shall forfeit and pay a fine of two hundred dollars for each day he shall refuse to obey the same, for which forfeiture

the property of the captain, together with the vessel and cargo, shall be held responsible.

SEC. 27. Any person who shall violate the quarantine regulations, as prescribed from time to time by the medical officer, shall forfeit and pay the sum of two hundred dollars for each and every offense; and all penalties and forfeitures imposed by any of the provisions of this chapter may be recovered before any jurisdiction having cognizance of the sum due, and applied, one-half to the informer, the other half to the payment of the expenses of the quarantine establishment.

SEC. 28. The quarantine medical officer may issue a warrant to any sheriff or other officer commanding him to arrest the body of any person violating the quarantine and have him without delay before some competent jurisdiction for trial.

SEC. 29. The compensation of the quarantine medical officer shall be six hundred dollars per year, and the compensation of the boat's crew shall be twenty dollars per month each while regularly employed, provided one of the crew may be designated by the quarantine officer to take care of the buildings, boats, and materials at an extra compensation of ten dollars per month while so employed.

SEC. 30. For the purchase of a site and for the erection of suitable hospital buildings, and for a boat and necessary materials and expenses for quarantine service, the sum of four thousand dollars is, and the same is hereby appropriated from any moneys in the public treasury not otherwise appropriated, to be expended under the direction of the quarantine officer and a commissioner to be appointed by the governor: *Provided*, That the said commissioner shall receive no compensation for his services.

RULES FOR THE REGULATION OF QUARANTINE OF KEY WEST.

ARTICLE I. All vessels arriving at the port of Key West from the high seas between the first day of May and the first day of November (and at all other times if from a port where diseases of a contagious or infectious nature are prevailing, or that have or may have had any sickness on board since leaving such port) shall come to anchor to the southward and westward of a buoy with a yellow flag thereon, stationed off the marine hospital, set their ensigns in the main rigging and be subject to examination by the port physician and to such regulations as may be deemed expedient by him; and until so visited it shall be unlawful for the master or commander of such vessel, or any person thereon, to hold any communication whatever with the city or island of Key West, or with any boat or vessel in the harbor.

SEC. 2. It shall be the duty of the port physician, without unnecessary delay, to visit every vessel made liable to visitation by the first section of these rules, and to require at once from the master or commander of such vessel a list of the crew and passengers, the name of the port from which such vessel last sailed, with date, the number of deaths (if any) during the voyage, and the number of sick. He shall also ascertain the sanitary condition of such vessel. And any master or pilot making a false statement as to the sanitary condition of such vessel during the voyage, or of the port from which such vessel sailed, shall be subject to the penalties hereafter prescribed.

SEC. 3. It shall be the duty of the port physician to order to the quarantine station any vessel having on board sickness of a contagious or infectious nature, or whose sanitary condition is such as to render it unsafe to allow any communication with the city; and he shall cause such measures to be used as will improve the sanitary condition of such vessel.

SEC. 4. It shall be the duty of the master or commander of any vessel lying in this port, upon which sickness may occur at any time, immediately to notify the port physician who shall proceed forthwith on board of such vessel, and if he is satisfied that such sickness is of a contagious or infectious nature he shall order such vessel to the quarantine station, subject to such rules as he may deem expedient; and it shall be the duty of the master of every vessel so ordered, to proceed with his vessel thereto without delay.

SEC. 5. It shall be unlawful for any person on board of and belonging to any vessel ordered to the quarantine station to leave such vessel, nor shall it be lawful for any person to go on board of or approach nearer than one hundred yards or hold any communication whatever with any vessel waiting the visit of the port physician at the boarding station or while performing quarantine, without the permission of the port physician.

SEC. 6. All vessels (belonging to this port), such as pilot-boats returning from their ordinary cruising grounds, snacks from their fishing banks, and vessels bringing cattle from the mainland, sponge and wood boats, and vessels employed in wrecking are exempted from the restrictions contained in the first section of these rules: *Provided*, They have communicated with no vessel subject to visitation by the port physician and have had no sickness on board during the voyage, or have any at the time of arriving at the port of Key West.

SEC. 7. It shall be the duty of the master or commander of every vessel arriving in the port of Key West from a wrecked or stranded vessel on the Florida coast or elsewhere, to come to anchor at the place designated in section 1, and to cause the ensign of such vessel to be placed in the main rigging as a signal to the port physician, who shall board such vessel and subject her to such regulations as he may prescribe, not inconsistent with these rules: *Provided*, That upon the visitation of the first vessel, if he shall permit her to pass, no other vessel from the same wrecked or stranded vessel shall be required to anchor as aforesaid, unless at the time of her arrival there should be sickness on board.

SEC. 8. The port physician is hereby required to keep a record of all vessels visited by him, with the class, name and master of such vessel, where from, with date of leaving, and where bound; the sanitary condition of the port last visited, number of crew and passengers, cases of sickness during the voyage and nature of the same; and he shall, if desired, report to each meeting of the board of health; and he shall be required to keep a record of all fees received by him in his official capacity during the continuance of quarantine.

SEC. 9. The port physician shall be required to visit and inspect vessels between the hours of sunrise and sunset, and if in his opinion they are not in a condition prejudicial to the health of the city, he shall grant a permit to land, under such regulations and restrictions as he shall impose, and no vessel shall land in this harbor without such permit.

SEC. 10. It shall be lawful to unload any vessel at the quarantine station that may be in a leaky condition, or when the public interests require it: *Provided*, That the same be done by acclimated persons, and subject to the supervision of the port physician and the orders of the board of health.

SEC. 11. The mayor, by and with the consent of the board of health, shall be empowered at all times when it shall be satisfactorily brought to the knowledge of said mayor and board of health that disease of a contagious or infectious nature prevails as an epidemic at any port or place by proclamation to declare the same and forbid all communication with such port or place and the port of Key West, except upon such restrictions as may be prescribed by the port physician and the board of health of said city of Key West.

SEC. 12. The quarantine station shall be the buoy at the entrance of Chalder's Channel, formed by a line extending from Mangrove Key to a point of bank to the southwest of said key and Chalder's bank.

SEC. 13. The port physician shall demand and receive to be paid into the city treasury from the master or owner of each vessel inspected by him the rates following, viz: fishing-smacks and wrecking-vessels \$2; steamers, ships, barks, brigs, and other vessels not enumerated, \$5; for every necessary visit to all classes of vessels while detained in quarantine by order of the port physician, \$5; for every bill of health, \$2; and for every visit from sunset to sunrise, double the amount of the fees for each class of vessels as above described.

SEC. 14. The port physician is hereby empowered and instructed to carry out the requirements of these rules, except such powers therein specially delegated to the mayor.

SEC. 15. For each and every violation of these rules, or of any section thereof, the party or parties so offending shall, upon conviction before the mayor, be fined a sum not less than ten nor more than one hundred dollars.

SEC. 16. All rules, regulations, or ordinances conflicting with these rules are hereby repealed.

Passed the board of health this 1st day of April, A. D. 1879.

Approved.

L. W. BETHEL,
Mayor and President Board of Health.

Attest:

P. T. KNIGHT, Clerk.

National Board of Health

BULLETIN.

VOL. I.]

WASHINGTON, D. C., SATURDAY, SEPTEMBER 27, 1879.

[No. 13]

SANITARY INSPECTION OF TOWNS.

Inspector DR. JOHN H. RAVEN transmits a tabular statement of a sanitary inspection of Mound City, Ill., which was undertaken and completed by the board of health of that town. The report is a model of its kind and deserves more than a passing notice. The charts or tabular forms used are seven in number, each ruled so as to give the following subdivisions: name of street; number of street; lot filling; name of owner and occupant; houses, viz, dwellings only, stores only, stores and dwellings, vacant; rooms in dwelling; occupants, viz, white, colored, adults, children; water supply, viz, cisterns, hydrants, cisterns and hydrants, no water supply, wells; material of houses, viz, wood, brick; ventilation; condition of premises, good, bad, and of privies, foul, defective; drainage, viz, surface, sewer, good, bad, water-closets; persons not vaccinated, white, colored; number of animals on premises, viz, horses, mules, cows, hogs; condition of stables; vacant lots; stagnant water; deaths in 1878. The inspector was required, in addition to the items embraced in this report, to pay special attention to the condition of cellars, or, if none, the ground under the building. In houses where yellow fever occurred in 1878, he was to advise airing and thorough ventilation of everything in them before the temperature became too high; also to state number of deaths that occurred in them from that disease. If anything else attracted the attention of the inspector, he was to note it under the head of remarks.

This inspection developed the following facts: The population of Mound City is 1,637; 1,136 white, and 501 colored; adults 922, children 715; it has dwelling-houses 294, store 1, store and dwelling 14; there are 1,291 rooms in the dwelling-houses; the water supply is from cisterns 304, hydrants 1, cistern and hydrants 1, wells none; the ventilation is noted as good in 207 houses, and bad in 12; the premises were in good condition in 308 cases, and bad in 3; the privies were good in 272 instances, foul in 15, and defective in 20; there was surface drainage in 305 cases, and sewer in 2; there were 367 white, and 190 colored persons unvaccinated; of animals there were 77 horses, 15 mules, 266 cows, and 154 hogs; the deaths in 1878 were 28.

In the above abstract of the tables transmitted the true sanitary condition of the homes of the people of this town are apparent. Such an exhibition is not only a valuable guide to the health authorities of the town, but it stimulates the inhabitants to remedy the defects which are discovered by the inspector in those houses. This is proved in a note appended by this officer to the effect that

everywhere he found the people interested in preparing and cleaning their premises. This inspection was made by a single sanitary policeman, at a mere nominal expense. The example set by the authorities of Mound City deserves to be followed, and repeated annually in the spring, by every incorporated village of the United States.

HOW THE FEVER SPREADS.

The outbreak of fever at Buntyn's Station, Tenn., strikingly illustrates the value of those measures of prevention which are now most relied on, and which have proved most successful. Unrestricted family intercourse has always been found to be the most fruitful means of sowing the seeds of contagion, and the yellow-fever infection proves no exception to the rule. It is probably not the individual who conveys the poison in this case, but the clothes and other personal and household effects which become the carriers of the infective material. Complete isolation of the sick from the unacclimated, and the thorough destruction or disinfection of everything that can receive, retain or propagate the *materies morbi*, is the only reliable means of prevention.

Effectual as these means have proved when properly carried out, the difficulties attending their practical application, especially in large cities, are almost insuperable. Too often, friends of the sick will not allow them to be isolated, and family intercourse is imperfectly restricted. Clothing and infected articles cannot be seized and destroyed or properly disinfected. The infected locality cannot be depopulated of even the vagrant inhabitants without a popular outcry of persecution of the laboring classes. And, finally, as has occurred at Memphis, after the long struggle of the sanitary authorities with the pestilence is about to be crowned with success, a petty court steps in and ruthlessly brushes away the defenses which have been raised against the spread of the epidemic with so much heart and such expenditure of labor and money. It requires something approaching the arbitrary rule of military government to bring a city into proper subjection to sanitary measures when yellow fever first invades it. When the fever appears in small towns, popular alarm is generally so great that isolation of the sick and non-intercourse of families are enforced much more readily and completely. This fact will appear in the history of many southern towns this summer. But Buntyn was an exception; family intercourse between the sick and the well was maintained, and the results appear in the following history of the origin and spread of the pestilence in that small town, as given by Inspector W. B. WINN:

July 13 Mrs. Sam. L. Moore, jr., was taken with yellow fever at her

residence in Memphis, 199 Elliott street, in the original infected district. July 18 Mr. and Mrs. Moore, sr., came into the city, called at the house of their son, and asked to be permitted to take their two grandchildren to the country. They did not enter the house, but remained in the wagon. Mr. Moore, jr., stood on the sidewalk, talked with them in regard to the removal of the children, finally consented, shook hands with his parents, and bade them good day. At this time Mr. Moore, jr., had the fever on him and was compelled to go to bed as soon as he entered the house. The children, a boy of 2 years and a girl 1 year old, were now taken into the wagon and carried to Buntyn. Saturday, July 19, the boy was taken sick and sent back to the city on the 20th with the fever upon him. The younger child remained at its grandfather's house. July 28 Mr. and Mrs. Moore, jr., who had now recovered sufficiently to go about, after changing their clothing, visited their father's family at Buntyn for the purpose of taking the other child back to the city. When they arrived Mrs. Moore, sr., came out, kissed her daughter, and handed her the baby. They did not enter the house, but remained about an hour in the yard sitting in chairs in the shade. On their return to the city the baby was attacked. Dr. D. D. Saunders, a prominent physician here, attended the family of Mr. Moore, jr. There were six cases in this family, one of which died with suppression and black vomit.

August 9 Bradley Moore, aged 7, son of Mr. Moore, sr., was taken with the fever. He and all the subsequent cases were treated by Dr. Watkins, of Buntyn. This case terminated favorably. August 25 Mr. Moore was himself attacked, and on the 27th his son Calvin and daughter Lula. Two days later Mrs. Moore and another son, Wade, were taken down with the fever. All of these cases terminated favorably except Calvin Moore, who died with suppression and black vomit.

After the death of this boy, Mary Moore, colored, who had been cooking for the Moore family, left and went to the house of her step-father, Dave Rogers, where she was taken sick September 1, and died on the 3d with suppression and black vomit. DeJone's case was attacked. She visited the Dayton family, went to church with them Sunday, August 31. The Dayton family lived only a short distance from the Rogers family, the two families using the same well; the children constantly together at play. September 5, Byrd Dayton, colored, aged five, was taken sick. The child has well-marked yellow fever, but will very probably recover. The Daytoners are using bedding on which fever patients died last year. September 1, Mrs. Honck was taken sick and had well-marked yellow fever. The attack was followed by abscesses from which she is now suffering. September 2, Mr. Honck was taken dying in 10 hours, with suppression and black vomit. On the evening of the 2d, Willie Honck was taken down; the boy is still sick. September 3, Miss Ella Honck was taken, and died September 8, with black vomit. Henry Honck was taken at 5 a. m., September 4. James Honck at 6 a. m., of the same day. Henry is still sick; James died on the night of the 7th instant, with suppression and black vomit. The Honck family lived about 250 yards from the Moores. The children were constantly together, and James Honck was seen playing with the grandchild of Mr. Moore, who was taken sick on the 19th and sent back to the city next day.

The Hardison family, colored, lived about 250 yards from Mr. Moore's house. Was there often, his children and the Moore children coming together daily. August 29 William Hardison, aged 14, colored, was taken. August 31 his father and sister Dora were taken down. All these recovered. August 31 Miss Jennie Foster, aged 20, living on the Pigeon Roost road, about one and one-half miles from Buntyn, was taken sick and died in the forenoon of September 5. She had involuntary discharges from the bowels for two days previous to death. August 21 Mr. Joe Pinnin, from this city, visited Miss Foster, spending the evening with her. He had the fever on him at the time; returned to the city and died a few days later. August 28 the Honck family received a package of cotton goods from Memphis, opened it at the same day, put out and commenced making dresses. Miss Jennie Foster was present and assisted in making the same. Miss Foster's brother and brother-in-law came to the city daily.

VITAL STATISTICS IN COLORADO.

From the annual report of the State board of health of Colorado, it appears that the efforts of that body to secure a return of births, marriages, and deaths have thus far failed. The indifference of authorities and the apathy of the profession are the obstacles to be overcome. Discouraging as these efforts are, they should not be abandoned; the reform is slow in development, but it will surely succeed. The report of the secretary, Dr. Charles Ambrook, is as follows:

Under the provisions of section 6 of the act creating the board, and sections 37, 39, 40, and 42, chapter 82, general laws, the authority to collect vital statistics and sanitary information is given; and by section 41, same chapter, the auditor of the State is required to prepare and distribute the blanks for birth and death reports, while the reports are to be made to the State board of health; but to insure

the success of the reports it seemed that the secretary of the board would be the best one to see to the distributing of the blanks and keep a supply in the hands of the clerks of the local boards of health. In order that there might be no delays, a proposition to that effect was made to our late State auditor, Mr. D. C. Crawford, and as it accorded with the spirit of section 1 of the act creating the board he consented to it and did all in his power to facilitate the work; consequently the secretary had personal control of the distribution of the blanks, and for each quarter of the year 1878 they were faithfully distributed; but, with the exception of the city of Denver, and the counties of Boulder, Douglas, and Bent, that was practically the last of them. Some counties and no attention to them or the communication sent in regard to them; others expressed a willingness to co-operate in the work, but failed to do so; while many more complained of the apathy, and, in fact, total disregard of the law on the part of the medical profession. Hence it is a mere form to state that outside of the exceptions mentioned, vital statistics of our State for the year 1878, and thus far for the year 1879, are not in existence, and the laws in regard to them dead letters.

Relying upon the public spirit of the medical profession, a blank was devised to enable this board to have a report of sickness, independent of the deaths; and in order that it might entail as little labor as possible upon the part of those who chose to make this voluntary report of cases treated, it had a list of all diseases that were likely to occur, and in that way saved the physicians the trouble of writing in the names or of hunting up the classification. But with the exception of a few physicians, that was the last of the blanks distributed.

A "pulmonary disease" blank, on which it was designed to gather reports of the cases that recovered their health by a residence in this climate, was prepared and distributed with but little better results than the rest. The inference is irresistible that it matters but little whether the State by a law or a board or by private enterprise, attempts to collect statistics of a medical nature, the result is the same. It will undoubtedly take time and incessant drumming to obtain reports of value while so large a part of our State remains so sparsely settled. Physicians must, of a necessity, be as roving as their patrons, and vote it a bore to make reports for which there is no remuneration.

From experience, I think that a sanitary report could be obtained from the different town and county authorities, provided it was made, as in other States, upon a blank with specific questions and spaces for answers to be written in. That method saves trouble to those making the report, secures uniformity and method, so that the report when filled will make a complete record of the locality, and will in future years be valuable to trace its epidemic diseases and results of climate upon its inhabitants. I am fully persuaded that a report of this nature could be obtained every three months from each town and county in the State if the proper blank was prepared.

ABSTRACTS FROM CONSULAR REPORTS.

CIRCULAR TO CONSULS.—The following circular has been issued from the State Department to consuls in regard to the transmission of weekly consular reports to the National Board of Health:

DEPARTMENT OF STATE,
Washington, September 11, 1879.

To the Consular Officers of the United States:

GENTLEMEN: Adverting to the circular instruction of the 21th of June last, "separate," in which your co-operation was requested towards assisting the National Board of Health in carrying out the provisions of section 1 of the act approved June 2, 1879, to prevent the introduction and spread of contagious diseases into the United States, I have now to inform you that, as the purport of that instruction appears to have been misunderstood in respect to the transmission of the "weekly reports," which, in some instances, have been sent to the department, it is desired that those reports and any other information upon the subject should be uniformly sent directly from your office to the president of the National Board of Health in this city, Dr. J. L. Cabell.

I am, gentlemen, your obedient servant,

W. HUNTER,
Acting Secretary.

BURIAL PERMITS IN MASSACHUSETTS.—Dr. L. Hopkins states that in Massachusetts the law requires that town clerks shall not give permits for burials without a certificate of the cause of death, from the attending physician, approved by the local board of health.

QUARANTINE, CINCINNATI.—Dr. T. C. Minor reports that the quarantine at that place was removed on the 15th instant.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of five cents per copy. Notice of at least one week should be given when a large number is required.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

DISINFECTION IN NEW ORLEANS.

It has already been stated that disinfection, as a preventive measure against yellow fever, was on trial in New Orleans. The interest which attaches to this popular measure, the value of which is by no means thoroughly established, renders the details of the methods pursued important. The following report was prepared by Dr. B. A. Bayley, sanitary inspector of the fourth district:

An area was allowed of sufficient width to cover all infected localities, with a wide margin extended on three sides to broad and much-traveled thoroughfares, the river forming the fourth side which was subdivided into seven separate but adjoining sections. There were three placed under the general supervision of the sanitary inspectors of the state board of health, who were to have a force of men consisting of a foreman, two laborers, a wagon and cart with the accompanying driver, and two men for whitewashing purposes. It was thought best to commence sanitary operations on Magazine street, as the central dividing line, and to carry on the work from both sides of this street in succession, working toward the river first, and St. Charles street afterward. Exceptions were made subsequently, however, to this plan of going over the district in the infected squares containing the flood and Berkson houses, where this work was at once attended to, but in no other instances. Each and every premises was to be visited in any given section by the inspector, and with the assistance of the foreman, the condition of the privy-vault, yard, alley, drainage-gutters, grading and cleanliness of the lot, dryness of the soil under houses, &c., connected therewith made a careful note of, and a report of such condition, if considered unhealthy or uncleanly, submitted for the action of the board of health and city authorities in enforcing the health ordinances. The disinfecting agents supplied to each working force of men comprised the following articles in use, viz: copperas, sulphate of iron, chloride and caustic lime, carbolic acid, and the residue from the soap-factories called "glabo." The carts were hired for the purpose of collecting all filth found in the yards, alleys, and on sidewalks and the like, and the same conveyed soon after to the garbage-boat located at the foot of Ninth street. Two whitewashers to each section were employed and set to work to give a coating of the quick-lime on trees, large shrubbery, and common fences along the streets, and in the case of infected premises the same was to be done inside of private residences in addition thereto. The two laborers to each section, besides applying the disinfectants as directed by the inspector or foreman, were to open out, clean, and disinfect all drains, alleys, &c., with the assistance of the two drivers. The disinfection work was to be done by full-sections in succession, as this is the most rapid and effective manner of doing such work. This system of inspecting, cleaning, and disinfecting premises devised by the National Board of Health, co-operating with the Louisiana state board, is now being faithfully tried, and the benefit to be derived, considered socially, morally, and commercially, will soon be fully demonstrated to the entire satisfaction of the city and country at large in the way of preventing and arresting the spread of yellow fever or any other contagious or epidemic disease. The different disinfecting agents can best be described as to their manner of combination and use by arranging them under separate headings:

COPPERAS.

This agent was used at the very beginning of the work in the dry state, but the solution with water was soon found to be slow and imperfect in application. To expedite and simplify, therefore, the disinfection with the copperas solution was afterward prepared and kept on hand, to be used as readily and in the same proportions as the carbolic acid. This solution is a saturated one, and one pint or quart (according to the condition of the privy vault, sink, &c.), added to a bucket containing about two and a half gallons of water, was used in such places. Whenever it was thought necessary the same was used under houses, along drains, in stables, &c.

CARBOLIC ACID.

Unless the occupant of premises objected to the use of this agent or there was some person sick in the house and likely to be unpleasantly affected by the more or less disagreeable odors and irritant properties of this acid, it was combined with the copperas solution, in equal proportions, in every foul place or vault, the two agents entirely destroying the foulness of the contents of any sink, &c., wherever they were introduced.

CAUSTIC AND CHLORIDE OF LIME.

The chloride of lime, on account of its value as a disinfectant, was reserved for the very foul vaults alone, or the vault in infected premises, otherwise the caustic-lime was substituted instead. The quick-lime was sprinkled thoroughly over the top and sides of vaults, after the use of the copperas and carbolic acid solutions; also along the drainage-gutters and alleys that were filthy, or containing foul and stagnant water, after the same had been properly opened out, cleaned,

and disinfected with the copperas and carbolic acid solutions. The quick-lime was sprinkled along all foul street-gutters, the condition of the same being reported to the board of health, and from thence to the city authorities, for the abatement of such public nuisances, and over all damp places in the yards, around cisterns, vaults, and under houses, &c. The effect of this agent is marked in destroying foul odors, &c.

GLABO.

This alkaline and soapy substance is being extensively used in different ways throughout the several sections, in accordance with the wishes of Dr. Chastin. This agent is first made into solution (being readily soluble in water), and then sprinkled around, generally either by means of a hand-sprinkler or pump. Gutters and alleys or premises are first scrubbed out with this solution, and then sprinkled with lime. The pump is convenient to throw the solution up into and over the trees, shrubbery, &c., especially in infected premises, with the object of killing all forms of low animal life existing thereon, which may have something to do with the spread of yellow fever. It would be well to mention the fact that the three extra men (of the ten foremen employed by yourself) are kept busy at the sanitary office in this district in preparing and furnishing out the disinfectants to the different working-forces in the several sections, and such other work as may be required of them. The three smaller and upper sections, viz., the fifth, sixth, and seventh, consisting of sixty-seven full squares, have been gone over entirely, and the premises on these squares were thoroughly inspected, cleaned, and disinfected from the river back to St. Charles street. The inspectors in charge of these sections are now going over the same field again, and expect to be even more thorough and systematic than the first time in this work. The larger and lower sections, viz., the first, second, third, and fourth, consisting of one hundred and nine squares, have been rather more than half gone over, that is, sixty-nine full squares have been carefully inspected and disinfected, leaving forty full squares yet to be attended to in the same manner. These sections will be entirely finished by the 10th or 11th instant, and then recommenced in the same order of working. The amount of filth removed from the premises in the way of trash, manure, garbage, &c., is simply appalling, in a sanitary point of view, and was enough in itself to breed sickness of almost any description. The work being done by the whitewashers in the district is refreshing to the eye, as there is nothing so cleanly and pleasant in appearance as rows of trees having coats of lime on them. The same may be said of fences.

In infected premises, the greatest care was taken to disinfect the privy-vaults, drains, under houses, box and damp places in the yards, &c., with the solution in use for that purpose, and then the quick-lime well sprinkled over all such places, &c. Besides fumigating with sulphur the sick and death rooms of yellow fever cases, particular attention was devoted to the thorough disinfection and boiling of the bed-clothing, body-linen, mattresses (after ripping them open), &c., which had been used by the patient.

DISINFECTION OF IRON VESSELS.—Inspector A. N. Bell makes the following suggestions in regard to the disinfection of recently constructed iron vessels:

It would be well to recognize the important fact that some recently built iron vessels have no open keelson. They are so constructed as to leave numerous cellular spaces the whole length of the keelson, bulk spaces, while they may possibly be accessible to leakage and the accumulation of foul gases, cannot be inspected or even judged of by the pump water, as they are not accessible to the suction of the pump. Assuming it to be possible that infection may extend into and be retained in these spaces, it is very questionable whether any disinfectant whatever could be made to follow it. It appears to me that nothing short of removing the massive iron layers which aggregate a thickness of a foot or more over these spaces, and which in different sections cover the whole length of the keelson, would be certainly effectual in exposing them to appropriate treatment. High steam could, doubtless, be made to penetrate every crevice which could be penetrated by anything else, from the inside; but the question at once arises that on this side some of the spaces may be absolutely closed, while they are accessible by leakage from the outside, but yet involving the possibility of progressive contamination and ultimate outbreak.

RAILROAD INSPECTION.—The method of inspection of the railroads leading out of Memphis will be inferred from the following description by Inspector Dr. B. W. Winn:

The train leaving Memphis consists of an engine and passenger coach, from which all upholstered articles have been removed and wooden benches placed in their stead. This car and crew proceed only as far as the transfer station, one mile this side of Bartlett. Here all the passengers and mail are transferred in the open air to another set of cars, which have never entered an infected place. Memphis passengers are compelled to ride in an open stock car, hav-

ing no communication with way passengers, who are provided with a separate coach, until the train arrives at Humboldt, where a second transfer is made, after which all passengers are treated alike. The inspectors on this road are alive to their duties and perform them fearlessly. No change has been made since my last report, save that an inspector has been put on the train between Memphis and Transfer Station, who goes out and comes in on every train. No freight *from* Memphis is received on this road. It is impossible for me to make any suggestion which could increase the thoroughness of the system and execution of these transfers.

DALLAS, TEN.—Dr. J. L. Carter, health officer, transmits a copy of the ordinance regulating the burial of the dead, recently adopted by the city council. The total deaths in the city in August was 22. Of these there were 4 deaths among the adults; 2 among children (between the ages of 5 and 12); 16 infants under 2 years of age. The intense heat must have been one of the main factors in producing this result. The health among adults for the month is extraordinary. August is a sickly month in this latitude. No infectious or contagious diseases in the city.

Report of mortality in cities of the United States for the week ending September 13, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
N. H.	Concord	11,000	4	5	36.1													
Mass.	Boston	375,000	64	130	18.1		16	37	3	3			2	2		5	1	
	Cambridge	50,000	6	15	15.6			5	2									
	Fall River	48,500		24	22.6									5				
	New Bedford	27,000	3	9	17.4	1		2										
	Newburyport	15,000	3	3	11.3													
	Lowell	52,000	6	14	11.0		2	4										
	Lawrence	40,000	6	17	22.2		3	2										
	Dorchester	12,000	3	3	24.8		2											
	Somerville	23,000	2	3	6.8					1						1		
R. I.	Providence	101,500	9	31	17.4		7	4	1					3				
Conn.	New Haven	60,000	6	17	11.8		1				1					1		
Vt.	Burlington	16,500	2	3	9.1													
N. Y.	New York	1,097,563	274	543	21.8	2	91	108	7	1	14	16	6	5	12	5	2	
	Brooklyn	564,418	126	246	22.7		42	38	11		18	6		1	6	2	4	
	Yonkers	19,000	4	6	16.5		1	2										
	Newburgh	17,507	3	8	21.1		2	1										
	Hudson	8,754																
	Utica	35,000		10	11.9		2											
N. J.	Hudson County	190,000	24	61	16.0		7	5	2								1	
	Newark	115,000	22	66	20.1		6										1	
Penn.	Philadelphia	591,300	77	252	14.4		31	17	1		2			3		8	2	
	Erie	30,000	6	7	12.2		1	1									1	
	Reading	40,100	7	16	20.8			3										
	Pittsburg	115,000	24	54	14.1		7			2								
Del.	Wilmington	41,013	9	18	21.3		4											
Md.	Baltimore	400,000	74	143	18.6		18	17	4		3	3	1		7	7	5	
	District of Columbia	160,000	46	82	26.7		17	14						1		2	1	
Va.	Norfolk	24,000	10	11	14.1		2											
	Richmond	20,000	11	27	17.6		5	4	1									
S. C.	Charleston	57,000	13	34	31.4		6	5			1					1		
Savannah		22,626		7	19	30.3		3	1	2		3						
Ga.	Brunswick	3,000																
	Atlanta	39,000	11	19	25.1		3	1	1		1						2	
Fla.	Jacksonville	10,000	1	1	2													
Ala.	Mobile	44,000	8	11	11.3		1	1									1	
Miss.	Yicksburg	15,000																
	Columbus	5,300		1	9.8													
La.	New Orleans	210,000	20	70	17.1		13	6			2						3	
Tex.	Houston	30,000	2	3	7.7		1	2										
	Austin	15,500	1	1	14.5													
Ark.	Little Rock	22,000	6	9	21.3		1	5			1	1						
Tenn.	Jackson	7,500	1	2	13.9			1										
	Nashville	27,000	2	13	25.0		4	1									1	
	Chattanooga	14,000	2	1	21.7								1					
Ky.	Louisville	175,000	21	64	19.1	1	6	10	1					3		1		
W. Va.	Wheeling	35,000	10	14	29.8		2	1										
Ohio.	Cincinnati	250,000	35	78	16.0		8	14	2	1				7		2	2	
	Dayton	29,000	2	6	8.3			1										
	Gallipolis	5,500																
	Cleveland	175,000	23	38	11.3		1	7	2	1	1			1		2	1	
Mich.	Port Huron	25,200	4	11	14.1													
Ind.	Evansville	37,000	4	11	15.3		1	2							1			
	Indianapolis	95,000	17	32	17.2	1	3	5									2	
	Franklin	1,000	1	1	11.0													
	Richmond	11,000																
Ill.	Chicago	537,624	87	150	16.5	1	14	21	12	2	6	1		6		5	2	
	Quincy	35,000	2	5	7.5													
Wis.	Milwaukee	124,000	26	52	21.9		3	7	6		1	2					1	
Minn.	Saint Paul	51,000	9	11	11.1		1	4									1	
	Minneapolis	52,000	8	13	14.0		1											
Iowa.	Keokuk	15,000	2	1	13.9		1	2			1							
Mo.	Saint Louis	500,000	54	105	10.9		11	11	5		5		3			2	1	
Nebr.	Omaha	20,000	7	13	19.5		1	3										
Cal.	Vallejo	5,000																
Totals		7,477,110	1,213	2,634	18.1	7	368	411	81	5	113	18	9	12	66		67	31

* District of Columbia has 106,000 white, 54,000 colored; deaths, 39 white, 41 colored. Rate per 1,000, white, 12.2; colored, 11.5. Norfolk has 14,057 white, 9,943 colored; deaths, 5 white, 9 colored. Rate per 1,000, white, 18.5; colored, 17.3. Richmond has 16,000 white, 31,000 colored; deaths, 15 white, 12 colored. Rate per 1,000, white, 17.0; colored, 18.4. Charleston has 25,000 white, 32,000 colored; deaths, 12 white, 22 colored. Rate per 1,000, white, 21.9; colored, 35.8. Savannah has 17,493 white, 15,002 colored; deaths, 5 white, 14 colored. Rate per 1,000, white, 14.9; colored, 18.1. New Orleans has 155,000 white, 35,000 colored; deaths, 45 white, 25 colored. Rate per 1,000, white, 15.1; colored, 23.7. Nashville has 17,500 white, 9,500 colored; deaths, 7 white, 6 colored. Rate per 1,000, white, 20.7; colored, 32.5.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Places.	Countries.	Population.	Week ending—	Cholera.		Yellow fever.		Small-pox.	Plague.	Typhoid fever.		Typhus fever.		Other contagious diseases.	Total deaths.	Annual rate per 1,000.	Barometer.	Thermometer.	
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.					Deaths.
Turin.....	Italy.....	231,636	June 21	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	90	23.9	29.90	73.1	
Do.....	do.....	231,636	June 28	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	117	25.8	29.65	72.2	
Do.....	do.....	231,636	July 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	115	25.0	29.65	71.0	
Do.....	do.....	231,636	July 12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	133	29.1	29.91	72.8	
Do.....	do.....	231,636	July 19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	112	31.1	29.90	75.9	
Do.....	do.....	231,636	July 26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	129	26.5	29.29	73.8	
Do.....	do.....	231,636	Aug. 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	116	39.4	29.92	77.9	
Naples.....	do.....	458,644	Aug. 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	215	25.9	.....	86.0	
Trieste.....	Austria.....	127,873	Aug. 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	33.8	.....	.....
Frankfort.....	Germany.....	125,000	Aug. 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	66.4	.....	.....
Lyons.....	France.....	342,415	Aug. 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	182	.....	.....
Naples.....	Italy.....	458,644	Aug. 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	250	25.9	85.0	
Trieste.....	Austria.....	127,873	Aug. 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	103	12.0	84.1	
Turin.....	Italy.....	231,636	Aug. 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	131	25.9	29.65	84.6	
Turk's and Calicos Islands.....	West Indies.....	3,500	Aug. 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	11.4	29.90	86.0	
Vienna.....	Austria.....	737,285	Aug. 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	38.0	29.99	69.9	
Malta and Gozo.....	Mediterranean Sea.....	153,588	Aug. 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	18.9	64.2	.....
Bremen.....	Germany.....	105,000	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	35	17.1	.....
Frankfort.....	do.....	125,000	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	18	.....	.....
Havana.....	Cuba.....	195,147	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	23.6	29.94	86.0	
London.....	England.....	3,620,468	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	115	34.9	.....	63.1	
Stockholm.....	Sweden.....	169,429	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	57	24.7	29.86	62.1
Trieste.....	Austria.....	127,873	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	63	35.9	30.00	75.2
Turin.....	Italy.....	231,636	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	106	25.4	.....	.....
Turk's and Calicos Islands.....	West Indies.....	3,500	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	11.9	29.87	86.0	
Vienna.....	Austria.....	737,285	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	38	22.2	29.55	65.8
Warsaw.....	Russia.....	336,704	Aug. 16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	25	25.3	29.10	60.1
Copenhagen.....	Denmark.....	92,000	Aug. 19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	60	.....	.....	.....
Paris.....	France.....	1,988,406	Aug. 21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	848	21.9	.....	.....
Bremen.....	Germany.....	105,000	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35	17.1	.....	.....
Christiana.....	Norway.....	113,000	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	39.4	.....	.....
Frankfort.....	Germany.....	125,000	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gibraltar.....	Spain.....	19,000	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leipzig.....	Germany.....	115,719	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
London.....	England.....	3,620,468	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Londonderry.....	Ireland.....	31,884	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lyons.....	France.....	342,415	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Matamoros.....	Mexico.....	16,000	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal.....	Canada.....	145,000	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nice.....	France.....	19,777	Aug. 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Queenstown.....	Ireland.....	10,000	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stockholm.....	Sweden.....	169,429	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste.....	Austria.....	127,873	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Turin.....	Italy.....	231,636	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Turk's and Calicos Islands.....	West Indies.....	3,500	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw.....	Russia.....	336,704	Aug. 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Toulon.....	France.....	79,000	Aug. 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paris.....	do.....	1,988,406	Aug. 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leghorn.....	Italy.....	97,410	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leipzig.....	Germany.....	115,719	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liverpool.....	England.....	3,620,468	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
London.....	England.....	3,620,468	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Matamoros.....	Mexico.....	16,000	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montreal.....	Canada.....	145,000	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nice.....	France.....	19,777	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Panama.....	United States of Colombia.....	10,000	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Queenstown.....	Ireland.....	10,000	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rotterdam.....	Holland.....	145,000	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. John's.....	New Brunswick.....	.....	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Toulon.....	France.....	79,000	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Turk's and Calicos Islands.....	West Indies.....	3,500	Aug. 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

The following reports for the week ending September 13 are from places not known to require *burial permits*:

Abbeville, Miss., population 300; consumption 1. Allegheny, Pa., 75,000; deaths 21, under five years 15; consumption 1, diphtheria 1, diphtheria 1, scarlet fever 1. Augusta, Ga., 26,711; deaths 16, under five years 7; consumption 2, diphtheria 7, puerperal fever 1, scarlet fever 1. Aurora, Ill., 11,550; deaths 4, consumption 1, puerperal fever 1. Bangor, Me., 20,000; consumption 1. Bath, Me., 10,000; no deaths. Beloit, Wis., 5,000; diphtheria 1. Benton County, Miss., 11,000; gonorrhea 1. Binghamton, N. Y., 18,000; deaths 5, under five years 1; consumption 1, diphtheria 3. Bridge-water, Mass., 3,000; deaths 3, under five years 1; diphtheria 1, diphtheria 1. Burlington, Iowa, 30,000; diphtheria 1, under five years 1. Calais, Me., 7,000; deaths 2, under five years 1; diphtheria 1. Carrollton, Miss., 600; no deaths. Cedar Keys, Fla., 1,200; heart disease 1. Columbus, Ga., 10,000; deaths 6, under five years 3; diphtheria 1. Crystal Springs, Miss., 1,000; no deaths. Davenport, Iowa, 25,000; deaths 19, under five years 1; diphtheria 1, diphtheria 1, lung diseases 2, typhoid fever 1, malarial fever 2. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. Dubuque, Iowa, 30,000; deaths 9, under five years 3; consumption 2, diphtheria 1, typhoid fever 1. Edgartown, Mass., 1,700; heart disease 1. Fayette, Miss., 300; no deaths. Franklin, Tenn., 1,000; no deaths. Gunn City, Mo., 100; no deaths. Helena, Ark., 5,000; malarial fever 1, under five years,

Helena, Mont., 3,500; deaths 3, under five years 1; diphtheria 2. Hiram, Miss., 1,200; 1 death, no case given. Indianola, Tex., 200; no deaths. Jackson, Miss., 5,000; consumption 1, diphtheria 1. Lonsdale, Mo., 5,000; typhoid fever 1, Marbledale, Mass., 7,500; consumption 2, pneumonia 1. Millford, Mass., 10,000; deaths 3; under five years 2; consumption 1. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; deaths 2; consumption 1. Nantucket, Mass., 3,000; consumption 1, diphtheria 1. Niles, Mich., 1,630; diphtheria 1, under five years 1. Norfolk, Conn., 17,000; deaths 10, under five years 3; consumption 2, typhoid fever 1, whooping-cough 2. Oklaoma, Miss., 3,000; malarial fever 1. Painesville, O., 5,000; typhoid fever 1, old age 1. Pass Christian, Miss., 2,000; no deaths. Pensacola, Fla., 8,500; deaths 3, under five years 1; diphtheria 2. Peoria, Ill., 10,000; deaths 7, under five years 2; consumption 1, diphtheria 1, scarlet fever 1, typhoid fever 2. Plymouth, Mass., 6,334; consumption 1. Port Gibson, Miss., 1,000; deaths 4, under five years 1; pneumonia 1. Portsmouth, Va., 11,000; deaths 7, under five years 3; none from diseases in report. Poughkeepsie, N. Y., 20,000; deaths 6, under five years 2; consumption 1, diphtheria 1, typhoid fever 1. Quarantine Hospital, N. Y., 1 fatal case of yellow fever. Ripley, Miss., 1,000; no deaths. Rochester, N. Y., 20,000; deaths 24, under five years 5; consumption 2, diphtheria 1, lung diseases 3, malarial fever 2, typhoid fever 1, whooping-cough 1. Rome, Ga., 5,000; deaths 3, under five years 1; diphtheria 1, typhoid fever 1. Sacramento, Cal., 25,000; deaths 11, under

5 years 5; consumption 1, diarrhœa 1, malarial fevers 2. Salt Lake City, Utah, 25,000; deaths 6, under 5 years 1; diarrhœa 1, diphtheria 2, typhoid fever 1. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 4,000; 1 death, under 5 years, disease of brain. Waterbury, Conn., 16,000; deaths 3, under 5 years 1; no causes given. Wesson, Miss., 2,600; typhoid fever 1. West Point, Miss., 2,500; no deaths. Winona, Minn., 11,786; deaths 3, under 5 years 2; diarrhœa 2, pneumonia 1. Youngstown, Ohio, 17,000; consumption 1, malarial fever 1.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

BLOUNT SPRINGS, ALA.—Dr. J. C. Lee writes, September 5, in regard to the healthfulness of this town:

This place is a health resort for invalids from the South in summer, and fast becoming popular for invalids from the North in winter. We have a local population of about 150 inhabitants, and I report three deaths for the last three years among the citizens—uremic poison 1; measles 1; overdose morphine 1. The sanitary condition is good, and no disease or fever has ever been known to prevail at this place as an epidemic. There is an occasional death among the visitors from various causes.

MARYVILLE, TENN.—Dr. John Blankenship reports, under date of September 10, that Maryville, Blount County, East Tennessee, has a population of *white*, 770; *colored*, 403. The prevailing disease is typho malarial fever, supposed to originate from a mill dam on a small creek which nearly surrounds the town. This dam fills during the night and empties during the day. One death in July from typho malarial fever; one death in August from typhoid fever.

KANSAS CITY—ITS TOPOGRAPHY AND GENERAL SANITARY CONDITION.—Dr. J. H. Van Erman sends the following account of Kansas City under date of September 10, 1879:

Topographically Kansas City may be divided into three divisions: First, the older portion of the city extending from the Missouri River south to Twelfth street, with a width from east to west of nineteen blocks. This portion of the city is built upon exceedingly hilly and irregular ground, and on account of the many cuts and fills contains many stagnant ponds, many of them covering as much as one-half a block and with a depth of water varying from a few inches to 10 or 12 feet. Into these stagnant ponds empty very many private sewers, and they have been the receptacles of all manner of filth. That portion of the city west of Main street extends from Twelfth to Twenty-second and is of a width of eight streets, has the same general outlines. It is bounded on the west by what is known as the "Bluffs." That portion of the city south of Twelfth street and east of Main, an area of ten by twelve blocks, is a smooth, comparatively level tract of land with good drainage southward to a small stream which empties into the Kaw River. This I will call the second division. It has but two ponds made by fills across a ravine. The third division is bounded on the north by the Missouri River, east by the Bluffs, south by Turkey Creek, and west by the Kansas River. It is an alluvial river bottom, with a subsoil of fine sand, and has but little or no drainage, with numerous ponds, the result of street filling of the old bed of Turkey Creek. It is largely occupied by depots, railroad tracks, packing houses, elevators, mills, &c. In rainy weather there are an immense number of shallow ponds, which in dry weather are without water. The population of this part of the city is about 8,000 or 10,000, mostly people in very moderate circumstances and principally dependent on their daily labor for their bread. The drainage of the first district is into the Missouri River; the second into Turkey Creek. The major portion of the third district may be said to have no drainage except a small portion of the northeast part which has a badly constructed sewer. We have no general system of sewers. The water supply is from wells and cisterns and from the Kansas River by means of the Holly system of water works. Kansas River water is very hard. Enteric troubles, particularly among children, have been exceedingly rife and very fatal in the past summer. None of the exanthematous fevers are now in existence. Malarial fevers are now prevailing, being our endemic fever. Some few deaths have been reported of typhoid fever, a somewhat rare disease in this locality. What is usually known as typho malarial fever is now prevailing to some extent; quite a large number of fatal cases have been reported in the past six weeks. The deaths from all causes in the month ending August 31, were 107. Our population is now estimated at 60,000 in round numbers.

NEWPORT, R. I.—Dr. S. W. Francis writes as follows:

The city of Newport is situated at the southern part of Rhode Island. The resident population is 15,000, which is increased in summer to 20,000. There is a large number of colored inhabitants. The highest point of land on the outskirts is "Slate Hill," 260 feet above the level of the sea. The highest point in the city proper is 35 feet. Newport was settled in 1639, incorporated in 1754, and rechartered in 1755. The trees were cut down by the enemy during the war with England, but most of the beautiful country-seats, costing from \$10,000 to \$200,000, are now surrounded by an endless variety of native and foreign foliage. This is the finest watering place in the United States, both as regards its hygienic capabilities and its bold and exquisite scenery, combined with all the advantages and luxuries of social wealth. It is possessed of an air purer, softer, and more bracing than may be found in any other quarter of the globe; and the gradual slopes from hill to water-front render it capable of easy and thorough drainage. It is free from chills and fever, and, were the sewers more plentiful and better built, could be made the healthiest as it now is the loveliest spot in either hemisphere. Nature has done all that is useful; and if man, as his buildings become more crowded, would follow out the sanitary regulations of modern times, disease could be cut short, and typhoid symptoms be prevented from following in the wake of many acute affections.

The water-works lately introduced by William Norman, in accordance with a contract made with the city, supply all who desire it with excellent water, pronounced by those qualified to judge, as good for drinking or washing purposes.

The Rhode Island census for 1875 contains the following statistics for the whole State:

Deaf	104
Deaf and dumb	83
Blind	176
Insane	424
Idiotic	139
Famers	506
Convicts	654

Total provided for

Newport contains a city hospital, about half a mile out of town, capable of accommodating sixteen patients. Those who are suddenly taken ill or meet with accidents, and cannot afford to pay, are treated free of charge. From June 30, 1878, to June 30, 1879, seventy-seven patients were cared for, and only five died. There is also an excellent "poor house" in a flourishing condition, and occupying one of the finest sites on the bay. We have a city physician who attends the destitute without pay, excepting a salary of \$500 from the city fund.

The first sanitary protective association in this country was inaugurated last fall through the praiseworthy efforts of our distinguished citizen, Dr. Horatio R. Storer, whose example has already been followed by several other cities in the Union. This association is doing much good. For a small fee any private citizen's premises are inspected, and sanitary suggestions are made for the benefit of the individual, and, as a consequence, the comfort and health of his neighbors. The common council are a board of health according to the charter. Within the last few months an advisory board, consisting of two physicians, has been added until the legislature can be induced to incorporate a district board of health—a positive necessity in every country, civilized or otherwise. The streets and avenues are in an excellent condition, and the city is well lighted a portion of the night; but, owing to some custom of olden time, the lights are extinguished about 3 a. m., much to the discomfort and danger of the professional man or any obliged to return home "after hours." There are twenty churches and twenty-one clergymen, ten lawyers, and twenty resident physicians. Some ten additional doctors of medicine pass the season here. The deaths for the year 1878 amounted to 251, making 18 in 1,000. There were 426 births, and 128 marriages.

The statistical records for the year 1878 are as follows:
Average barometer, 29.952; average temperature, 61.2; highest temperature (in July), 92; lowest temperature (in January), 7; total velocity of wind, 79,553 miles; greatest velocity of wind (in March and October), 18 miles; total rain, 60.1 inches; direction of wind, 8 months, S. W.

CANTON, MISS.—Dr. A. J. Semmes writes as follows, September 10, regarding the indifference of physicians of his vicinity to the request to furnish information in regard to the prevailing diseases of that district, and also in regard to the sanitary condition of the town and its liability to yellow fever:

Our State laws require such records and reports, and our State board of health have furnished blanks, &c. The national census bureau have sent blank records to at least twenty physicians in my vicinity, but I have not found one whom I could induce to comply with the simple requirement. Such being the facts it is not in my

power to make for the National Board of Health any reliable reports. I can state that during the twenty-six years of my professional labors here in Canton I have never seen so few cases of remittent or of intermittent fever at this season of the year. Our town, on the Chicago, Saint Louis and New Orleans Railroad, 266 miles north of New Orleans, has been extraordinarily healthy this summer, though yellow fever of a very malignant type raged here last year. Fumigation of infected houses was not resorted to. Disinfection has not been applied, except sprinkling a little lime. Our street gutters (open drains) have been well opened. Yards and streets have been kept clean. We have not had a case of any infectious disease this season. I think and believe that our endemic last year originated here. I regard yellow fever as a complex of malignant bilious fever and typhus fever, liable to attack any dirty city under tropical conditions of weather, which existed last year, and while bad malarial fevers are prevailing. Such a year as this has been so far I would regard it as impossible to have yellow fever here, even if cases were imported.

UNION CITY, TENN.—Dr. S. T. Evans writes, September 10, as follows:

Union City is a thriving business and manufacturing place situated at the intersection of the Nashville, Chattanooga and Saint Louis with the Mobile and Ohio Railroad. It is 156 miles from Nashville and 347 miles from Mobile. Our population is 2,300; whites, 1,500; colored, 800. Water supply from underground cisterns and wells, from 12 to 60 feet in depth. The sewers are open drains and the sewage runs south into Hooper Creek, thence to Olion River. Privies are located on the surface of the ground and purified with dry dust and sulphate of iron solution. Under the direction of the board of health (which is this year working under the direction of the National and State boards), a great deal of sanitary work has been done, and as a result the general sanitary condition of the town is now pretty good.

BOULDER, COL.—Dr. Charles Andbrook, the enterprising secretary of the State board of health, of Colorado, furnishes a statement of the health of that city for the month of August:

This month has been healthy for this section. The number of deaths, six in all, represent but a very small amount of sickness, as deaths in our high altitudes are sudden. The weather has been hot and dry, yet there have been relatively but few cases of the ordinary summer complaint among children. Fevers are not unusually prevalent among adults. During the spring and early summer there have been a few sporadic cases of diphtheria and meningitis, possibly cerebrospinal, reported in this section of country, within a radius of ten miles of our town, but none were fatal. Boulder has never as yet been afflicted with those eastern scourges, cramp, diphtheria, cerebrospinal meningitis, nor has there been a very extensive prevalence of typhoid fever or cholera infantum. This summer the alleys and streets were thoroughly cleaned under supervision of a health committee of our town council.

The deaths in Boulder for the month of August, 1879, are as follows, the estimated population being 3,500: suicide, a despondent consumptive from the Eastern States, age 20, 1; asthma, male, age 20, 1; consumption, female, age 27, 1; child, female, neonatal, age 7, 1; child, sex unknown, disease unknown, age 1 year, 1; child, sex unknown, cholera infantum, 1 month, 1.

TEXARKANA, ARK.—Dr. E. T. Dale makes the following communication in relation to this town, under date of September 12, 1879:

Texarkana is situated partly in Miller County, Arkansas, and partly in Bowie County, Texas, and has a population of about 1,000, a little more than one-fourth of which are colored. It is at the southern terminus of the Saint Louis, Iron Mountain and Southern Railroad, and is the eastern terminus of the Texas and Pacific Railroad and Transcontinental Railroad. It is essentially a railroad town. The Texas portion of the town is incorporated; the Arkansas portion is not. The town is located upon a series of sandy hills or ridges, giving it good surface drainage. The water supply is from wells, which furnish an abundance of pure soft water at a depth of from 20 to 10 feet, the water being found in a bed of sand and gravel, after digging first through sand 2 to 4 feet, then through clay with veins of sand occasionally, until water is found. The privies are partly on the surface and partly with pits from 2 to 6 feet deep. In the Texas portion of the town all pits have been filled and dry-earth closets substituted. Texarkana is notably healthy, especially during the past two years since drainage has been more perfect and sanitary measures have received more attention. Texarkana, Tex., has a board of health and a health officer who acts under the direction of the state health officer, examining all trains and preventing any person or baggage from entering Texas without proper certificates. No freights are allowed to enter Texas without certificates. The

Arkansas part of the town has a citizens' board of health, which looks after the sanitary condition of the town. The prevailing diseases here are of malarial origin, a large percentage being remittent fever. There have been but three or four cases of typhoid fever during the past five years. Typho-malarial fever is not infrequent. A congestive type of fever is frequent. Pneumonia is not common. Consumption rare, unless imported. In the spring and fall, during a wet season, dysentery is quite common, traceable to contamination of the water. During the month of August there were 3 deaths; 2 colored, from malarial fever, and 1 white, from puerperal fever.

GREENSBURG, LA.—Dr. C. M. Silman writes as follows, September 17:

The population of this place is about 500. It is an old settled town, and is the parish seat of Saint Helena. It is situated in the piney woods region, and is the most hilly and the healthiest portion of Louisiana. We have had scarcely any sickness here for the last two years, and not a death this year inside of the corporation.

THE YELLOW FEVER.

The most striking feature in the comparison of the fever of 1878 with that of 1879 is the wide diffusion of the pestilence in the former as compared with the latter year. Not only did it spread rapidly through the cities which it attacked last year, but it extended quickly to neighboring villages, which it remorselessly decimated. At this period last year, in addition to the towns noted below, it was reported that the "fever prevails in a number of small towns in Louisiana, Mississippi, Tennessee, and Kentucky." Its progress is very different this year. In Memphis its course has been very slow, while in New Orleans it has been completely arrested. Thus far it has attacked but few small towns, and in those it has been summarily stamped out. The following is the record of the present week of each year.

1879.

New Orleans, La.—No cases since September 3. Total cases, 22 deaths, 6.

Morgan City, La.—Total cases 20; deaths 1.

Mississippi City.—Total cases 10; deaths 3.

Camden, Miss.—Total cases 20; deaths 3.

Memphis, Tenn.—Total cases 1,436; deaths 320.

Baldwin Station, Tenn.—Total cases 15; deaths 3.

Horn Lake, Miss.—Total cases 10; deaths 3.

1878.

New Orleans, La.—For the week there were 326 cases and 332 deaths; total cases 8,464, deaths 2,500.

Baton Rouge, La.—For the week, 221 cases and 7 deaths; total cases 593, deaths 15.

Morgan City, La.—For the week, 79 cases and 12 deaths; total cases 115, deaths 39.

South Pass, La.—Total cases 12; deaths 2.

Plaquemine, La.—For the week, 16 deaths; total cases 295, deaths 3.

Mobile, Ala.—For the week, 11 cases and 7 deaths.

Boss Christian, Miss.—For the week, 12 cases and 2 deaths; total cases 33, deaths 3.

Baldwin, Miss.—For the week, 3 cases and 1 death; total cases 25, deaths 8.

Grenada, Miss.—For the week, 40 cases and 3 deaths; total deaths 274.

Bay Saint Louis, Miss.—For week, 53 cases and 15 deaths; total cases 78, deaths 29.

Water Valley, Miss.—For week, 18 cases and 5 deaths; total cases 21, deaths 7.

Mississippi City, Miss.—For week, 8 cases and 4 deaths.

Caldwell, Miss.—For week, 5 deaths; total deaths 779.

Camden, Miss.—Total deaths 247.

Baldwin, Miss.—Total cases 620, deaths 110.

Ocean Springs, Miss.—For the week, 9 cases and 5 deaths; total cases 60, deaths 17.

Memphis, Tenn.—For the week, 275 deaths; total deaths 3,125; number of cases unknown.

Brownsville, Tenn.—For the week, 67 cases and 22 deaths; total 197 cases and 66 deaths.

Chattanooga, Tenn.—Total cases 41, deaths 26.

Hickman, Ky.—For the week, 12 deaths; total cases 205, deaths 74.

Louisville, Ky.—For the week, 18 cases and 8 deaths; total cases 77, deaths 26; all refugees.

Gallopais, Ohio.—For the week, 3 cases and 5 deaths; total 31 cases and 17 deaths.

MISCELLANEOUS.

THE FEVER IN CAMPS.—Dr. J. B. Abercrombie, the physician in charge of the camps near Memphis, states of the six cases occurring in the camps, all contracted the fever in Memphis.

The following cities are added to the list on page 91 as requiring *burial permits*: Austin, Tex.; Concord, N. H.; Houston, Tex.; Indianapolis, Ind.; and Vallejo, Cal.

MONTHS.—September 19, 9 cases, 5 white; 6 deaths, 1 white. September 19, 10 cases, 6 white; 5 deaths, all white. September 20, 11 cases, 9 white; 5 deaths, 2 white. September 21, 7 cases, 6 white; 2 deaths, both white. September 22, 8 cases, 1 white; 1 death, white. September 23, 13 cases, 10 white; 5 deaths, 4 white.

VIDALIA, LA.—Dr. T. S. Sharpe, of Natchez, Miss., telegraphs as follows, September 11:

On inspection I am satisfied that the case reported in Vidalia as yellow fever is not that disease, but simple malarial fever.

DISINFECTION OF INFECTED SHIPS BY DRY HOT AIR BLASTS.—William Cowles, engineer U. S. N., has devised a method of ventilating, heating, and drying inclosed spaces of any kind. The apparatus for ships may be set up on board a movable vessel afloat, or may be stationary at any desired position on shore, or may be arranged on either a railroad car or fire-engine carriage, so as to be rapidly transferred from place to place. The disinfection of yellow-fever ships consists in carrying a hot-air blast of pure, dry air under pressure sufficient to force a thorough circulation through all compartments and spaces.

PENSACOLA, FLA.—Dr. George H. O'Neal, president of the local board of health, sends, September 9, a report of vessels arriving at quarantine during the month of August, 1879:

There were 3 steamers, 2 ships, 5 barks, 1 brig, 8 schooners, and 1 sloop. Of these all were passed but 4: August 11, ship *Bauer*, from Rio de Janeiro; ballast discharged, ship fumigated, all woolen clothing boiled; detained 20 days. August 20, bark *Dorothy*, from Rio de Janeiro; treated as above, and detained 11 days. August 21, schooner *Italia*, from Cardenas; treated as above, and detained 10 days. August 27, schooner *Joseph Oakes*, from Matanzas; treated as above, and detained 12 days. No mention is made of the existence of any infectious disease on any of the vessels.

LOCAL QUARANTINE LAWS.

AN ORDINANCE entitled "An ordinance to protect the public health of the port of Darien by quarantine and otherwise."

SECTION 1. The board of commissioners of McIntosh County, who are, *ex officio*, mayor and aldermen of the city of Darien, in council assembled, do ordain, and it is hereby ordained by authority of the same, that at the first annual meeting of this board, or each and every year, there shall be elected a board of health, to be composed of five members, and also a port physician, who shall be, by reason of his office, a member of said board.

SEC. 2. *Be it further ordained*, That said board of health shall have power to visit and inspect, at their discretion, any or all lots, inclosures, yards, streets, lanes, thoroughfares, or wharves, and to require the same to be cleansed of any filth or unwholesome matter found thereon, by the owners or tenants of such property, within twenty-four hours after notice is given. They will also cause such gleanings to be forthwith rendered or placed within reach of the public scavenger. Upon neglect or refusal of the owner or tenant of any such property to comply with the foregoing requirements, they shall be reported to the police court to be punished as hereinafter provided, and the said cleaning up shall be done by the marshal, and all expense thus incurred shall be paid by the owner or tenant of such property.

SEC. 3. *Be it further ordained*, That said board of health are hereby empowered, in their discretion, to have any or all untenanted houses opened for ventilation, and the premises of the same cleansed. And any expense so incurred shall be paid by the owner of such house or lot.

SEC. 4. *Be it further ordained*, That any person resisting, by neglect or otherwise, any of the provisions of the preceding section of this ordinance, after twenty-four hours' notice is given him or her by any member of the board of health, shall be, upon conviction thereof, fined for every such offense not exceeding \$25, or placed on the chain-gang for not exceeding thirty days; and the marshal or his assistants are hereby ordered to obey all orders emanating from said board of health which may be given for the purpose of carrying into effect the provisions of the ordinance.

SEC. 5. *Be it further ordained*, That said board of health shall meet monthly, or at the call of its chairman, and report to this board their actings and doings, and also examine into and recommend any measures which may be, in their judgment, necessary to preserve the public health. They are also hereby empowered to fill by election any vacancy that may at any time occur in their board.

SEC. 6. *Be it further ordained*, That it shall be the duty of the port physician to visit and inspect all vessels arriving at this port from any point (foreign or domestic) reported to him as infected with contagious or malignant diseases of any nature; and if, after investigation, any such disease is found to exist aboard of such vessel, he shall forthwith order the same to be removed to quarantine ground, and the sick or diseased persons aboard said vessel shall be, at his discretion, removed to the quarantine buildings near Wolfe Island, so that the proper attention may be given them. He is hereby empowered to employ, where he deems it necessary, sufficient guards to prevent communication with such vessel or sick persons, and to transport any necessary medicines or sustenance to the same. Also to employ nurses when required, reporting such action to the chairman of this board.

SEC. 7. *Be it further ordained*, That after the required time of quarantine shall have been complied with by such vessel, the port physician shall cause her to be thoroughly fumigated and cleansed, and two days after such fumigation he shall issue a permit for her removal, and all expense thus incurred shall be paid by the master or owner of such vessel. And the quarantine grounds spoken of in this ordinance are hereby declared to be the grounds in Doboy Sound, to the northward of Wolfe Island, known as the lower quarantine grounds.

SEC. 8. *Be it further ordained*, That the regular quarantine term shall begin on the first day of April of each and every year, and end the first day of November of the same year, unless circumstances should require other dates than the above; and the port physician is hereby instructed to issue his proclamation, indorsed by the mayor, on the said first day of April, to all pilots and masters of vessels arriving from any South American, West India, or Gulf ports, requiring the same to be anchored at the quarantine grounds and reported for investigation and fumigation, even though they may have no sickness aboard. And in the event that any vessel with sickness aboard of a malignant nature shall arrive at other dates than those above specified, it shall be the duty of the port physician to proceed as during the regular term of quarantine.

SEC. 9. *Be it further ordained*, That it shall be the duty of every pilot of this port, before boarding any vessel, either at sea or inside the bar, to make a diligent inquiry of the master of said vessel if there is on board any malignant, contagious, or infectious disease of any nature, and if there should exist such disease, he is hereby forbidden going aboard under a penalty of \$100 and dismissal from office.

SEC. 10. *Be it further ordained*, That any master of a vessel refusing to answer the above inquiries of the pilot, or deceiving him as to the real presence of infectious disease on board, or as to any death on the voyage from said cause, shall be fined in the sum of \$100.

SEC. 11. *Be it further ordained*, That any master of a tow or other steamboat violating the provisions of this ordinance as contained in section 9, whether as a pilot or master of such boat, shall upon conviction be fined in the sum of \$100 for each and every such offense.

SEC. 12. *Be it further ordained*, That it shall be the duty of the port physician to examine into any cases of a malignant or contagious disease reported to him as existing within the city of Darien or its vicinity, and report the same to the chairman of this board, who is hereby authorized to cause the removal of such persons, at the expense of the city, to some point designated by the board of health, so as to prevent the spread of such disease.

SEC. 13. *Be it further ordained*, That the fee of the port physician shall be: For every vessel boarded in Doboy Sound for inspection, \$20; for every vessel boarded in Sapalo Sound for inspection, \$50; for every vessel boarded at or near Darien, \$2; at the Ridge, \$5; for all vessels boarded at night, with infectious diseases on board, double day rates (\$40, \$100, \$1, \$10); and he is hereby required to make monthly reports of his actions and doings to this board.

SEC. 14. *Be it further ordained*, That all ordinances or parts of ordinances conflicting with any of the provisions of this ordinance be, and the same are, repealed.

Read third time and passed, April 11, 1879.

SPALDING KENAN,
Clerk and Treasurer.

National Board of Health

BULLETIN.

Vol. 1.]

WASHINGTON, D. C., SATURDAY, OCTOBER 4, 1879.

[No. 14

AMERICAN PUBLIC HEALTH ASSOCIATION.

As a matter of interest not only to sanitarians but to the public generally, the executive committee of the National Board of Health considers it proper to give a place in the columns of the BULLETIN to the following announcement of a proposed discussion on yellow fever at the next meeting of the American Public Health Association to be held in Nashville on the 18th to the 21st of November, the executive committee being authorized to publish such notices "in medical, scientific, and other periodicals, but without expense to the association."

ANNOUNCEMENT.

The executive committee of the American Public Health Association has decided to supplement the discussion on certain points relating to CITY SANITATION heretofore ordered for the Nashville meeting and announced in the president's circular of August 15, by one on the practical questions connected with the management of an actual or threatened outbreak of yellow fever. It is considered proper that the whole country should have the benefit of the practical lessons taught by the epidemic visitations of 1878 and 1879, and it is fit that the popular diffusion of this knowledge should be made through the medium of this association, which will have an unusually favorable opportunity at the meeting in Nashville, November 18-21, for collecting and recording the conclusions of intelligent and skilled observers as to the practical working of the measures recently put into operation by State and municipal authorities, aided by the National Board of Health, with a view to prevent the spread of the disease from local sources of infection.

The oral discussion will be prefaced by the reading of several papers by members of the association who have been actively engaged in this practical work during the prevalence of the existing epidemic in Memphis and elsewhere. In order to give definite direction to the discussion the executive committee has adopted the following schedule of the points to be especially considered:

1. How to deal with a city in the yellow-fever zone in order to prevent the appearance of a first case.
2. How to prevent the importation of a first case.
3. How to deal with a first case and early cases generally when, in spite of precautions under first and second headings, it has made its appearance.
4. The duty of local boards of health, or other health authorities to report such cases promptly, even though there may be some doubt as to the diagnosis. Whether the knowledge that such reports would be faithfully made would not have a tendency to allay apprehensions and give confidence to other communities while warning them of the importance of making preparations for contingencies.
5. Under what circumstances may it become necessary or expedient to remove the unacclimated portion of the population from an infected place? How may this be effected for the poorer classes of the population, and how should the people thus removed be cared for and supported?
6. Measures for isolating a dangerously infected place.
7. Organizations for the relief and treatment of the sick in an infected city.
8. Measures for preventing the spread of the disease from an infected place by railroads, including the management of transfer stations.

9. Inspection of steamboats at an infected place and at intermediate stations between the port of departure and their final destination. Should stations of observation be established by the National Board of Health? If so, what should be their relations to the health authorities of the States within whose territorial limits they may be established?

10. Results of the co-operation and aid given by the National Board of Health to State and municipal boards under the provisions of the act approved June 2, 1879. What suggestions may be made to render this system more efficient?

J. L. CABELL,

President American Public Health Association.

The following is the circular above referred to:

To Members of the American Public Health Association:

GENTLEMEN: At a meeting of the executive committee, held in Washington, January 3, 1879, it was decided that the principal subject for discussion at the next annual meeting of the association, to be held in Nashville, Tenn., 18th-21st November, shall be the sanitary condition of cities and towns, especially those of the Southern States.

In selecting a subject of so wide a scope the committee considers that it will be expedient, if not indeed indispensable to the attainment of useful results, to limit the inquiry to certain specified branches of the general subject rather than to attempt to cover the entire ground of city sanitation.

A few years ago a committee appointed by the association prepared a series of elaborate schedules of questions for facilitating such an inquiry, which have been recently published in pamphlet form as Circular No. 2, of the National Board of Health. A copy of this pamphlet will be furnished to any member of the association who desires to take a part in the proposed discussion, on application to Dr. T. J. Turner, secretary of the National Board of Health, and a member of the executive committee of this association. His address is, "Office National Board of Health, Washington, D. C."

The executive committee recommends the following subjects of inquiry: Water supply, Schedule C; Drainage and sewerage, Schedule D; Disposal of garbage and excreta, Schedule H; Slaughter-houses and abattoirs, Schedule K; Public-school buildings, Schedule M; Public-health laws, regulations, &c., Schedule R; Expenses of municipal sanitation, Schedule L.

Attention is also called to the following resolution, presented by Dr. A. L. Gilman, U. S. N., at the last annual meeting:

"Resolved, That the executive committee be directed to provide for the investigation and discussion, at the next annual meeting, of the most effective means for preventing the spread of venereal disease."

Members who propose to consider these subjects, or who may desire to treat exhaustively some special subject of their own selection, are invited to prepare papers not to require more than thirty minutes in reading, and to forward titles and abstracts in accordance with section 5 of the constitution.

J. L. CABELL,

*President American Public Health Association,
and Chairman of Executive Committee.*

UNIVERSITY OF VIRGINIA,
Charlottesville, August 15, 1879.

YELLOW FEVER AT RIO DE JANEIRO.

The following communication, forwarded by Dr. L. C. Fisher, of Galveston, Tex., presents interesting facts in regard to the prevalence of yellow fever at Rio. It will be seen that the season of epidemic prevalence of the fever there includes only the winter and spring months of our latitude, while during our summer months the fever occurs sporadically. This peculiarity of seasons renders the commercial relations of Brazil with the northern latitudes of the United States comparatively safe at all seasons of the year, and with the southern coast cities it need be scarcely

less restricted. Dr. Fisher very justly remarks, in regard to this commerce with Galveston:

The importation of coffee from Rio into Galveston is a very important branch of commerce and would grow to large proportions if it could be done without importing yellow fever. This can be done during our summer and winter but not, perhaps, during our later spring months, as vessels arriving here in May generally leave Rio in February or March, when the fever is raging as an epidemic, and such vessels are often infected.

The table was prepared by J. J. C. Voigt, public translator, and its accuracy is vouched for by the United States consul-general, Thomas Adamson.

During the years 1861, 1862, 1863, 1864, 1865, 1866, 1867, and 1868 the yellow fever had ceased completely, and no case, even sporadic, was observed. The first case of yellow fever was on the 9th of April, 1869, and the number of deaths from this sickness during the year was 274. In 1870 the total deaths caused by yellow fever were 1,117. In 1871 only 8 cases of yellow fever have been reported. For these 3 years no subdivision of month to be found. In 1872 the annual statement commences of the monthly subdivision, and 1873 and all the following years up to 1878, the subdivision is made by fortnightly reports. The result is shown in the following table of cases of yellow fever:

Fatal cases of yellow fever.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
1869	274
1870	1,117
1871	8
1872	102
1873	3,967
1874	236
1875	1,292
1876	3,317
1877	213
1878	280

IS CHOLERA A DISEASE INDIGENOUS TO THE UNITED STATES?

In view of the fact that cases of cholera are annually reported as occurring in certain cities, and that some health authorities state positively that cholera is now indigenous in this country, Surgeon ELY McLELLAN, U. S. A., who has investigated several outbreaks of this disease, writes as follows in refutation of that opinion:

The question, is cholera a disease indigenous to the United States? would be answered in the affirmative by a large body of American practitioners, many of whom would offer their personal experience in support of such belief. The facts upon which such statements rest and the arguments deduced from such facts are so seemingly trustworthy, that they create a doubt in the minds of those who hold them as to the integrity of individuals who may be led to question the immutability of said facts. The argument offered in support of such assertions is, that each year, in highly malarial districts, cases are observed which present a striking resemblance to epidemic cholera. As the symptoms presented by such cases are seemingly identical with cholera, it is argued that they are cholera. As such cases are almost invariably isolated, the absence of the epidemic tendency is announced. On the other side, it is argued that such cases fail to develop the invariable cholera characteristics, that there is always some deviation from the invariable routine of cholera, and that the symptoms found are those which follow profound disturbance of the sympathetic nervous system. In past cholera controversies, it can scarcely be said that "opinion fosters the spirit of inquiry," for the most valuable opportunities of investigation have been lost in the vain endeavor to make epidemic visitations prove, rather than to allow them to create, theories. Superficial investigators become partisans. I confess my own guilt.

By a combination of circumstances, I was led to make an etiological study of the last two cholera epidemics which visited the United States. I commenced this study a warm advocate of the theory that epidemic cholera was diffused by atmospheric and telluric causes alone. My experience in the epidemic of 1876 and 1877 confuted all the theories of "local origin," and to my mind, satisfactorily demonstrated

the truth of the theory that the diffusion of the disease was influenced by the migrations of individuals and their effects. As to the epidemic of 1873, it was my fortune to visit (with but two exceptions) the entire field of epidemic diffusion, and to obtain the views of a large number of medical men, very many of whom I found fully impressed with the belief that cholera was indigenous to the United States, and that it originates from local causes. So forcibly were these views maintained in opposition to what seemed the most startling facts, that I could only account for the existence of these discordant opinions by the application of one or the other of the following conclusions:

1. That, in the majority of instances, epidemics of cholera are studied by their local demonstrations alone, and that any connection which a local epidemic may have with other centers of epidemic diffusion are too often persistently overlooked.

2. That not infrequently the algid form of pernicious intermittent fever with cholera, otherwise so many medical men could not hold that cholera epidemics differ from the cholera (?) of each year in the presence of the epidemic tendency alone.

It is almost impossible to conceive of more baffling and perplexing cases than a fully developed case of *algid pernicious intermittent fever*. Occurring during the intense heat of mid-summer, often without prodromal manifestations, the most striking symptoms of cholera are exhibited. So marked are these appearances, that at times it seems necessary to acknowledge a choleraic kinship; yet the absence of certain pathological conditions, the absence of certain invariable symptoms, with the absolute isolation of each case, defines the class to which they belong.

The local-origin theory of acute infectious diseases dates back to the year 1793, and found its origin in that famous discussion that divided the medical politics of Philadelphia into two irreconcilable factions. At that time it was fashionable to hold that contagious diseases had their origin in "local causes." The cholera epidemic of 1832 was seized upon as furnishing conclusive proof of this theory. The sharply defined history of the cholera importation into the St. Lawrence by the ships *Constantia*, *Robert*, *Elizabeth*, and *Carriaca* was ignored and the obscurity which surrounded the occurrence of the disease at the port of New York—said obscurity only resulting from the nefarious suppression of facts by the board of health from prudential (?) motives—was advanced as a conclusive argument.

Since 1832, four great epidemics of cholera have occurred in the United States. Of forty-one years, twelve were years of cholera diffusion. The great interior valley of the United States was most severely dealt with by each epidemic. All classes of infected communities suffered, and all became familiar with the characteristic symptoms of the disease. In this same region, miasmatic diseases claim the major portion of public medical attention. Cases of the algid form of pernicious intermittent fever are met each summer, and when a well-marked case occurs, the sudden reduction of temperature, the violent and persistent vomiting and purging, the profuse sweat, the intense thirst, and the prostration and collapse all tend to vividly revive past cholera experiences. Cholera, such cases are pronounced by the laity; cholera they are diagnosed by the profession; and the fatal error, as yet unsuccessfully opposed, has grown strong and wide-spread. The truth can only be established after a most careful and exhaustive examination. An authoritative differentiation, once established between epidemic cholera and the algid type of pernicious intermittent fever would awaken a spirit of inquiry among those who now hold the two diseases to be identical.

An investigation which would produce reliable results can only be accomplished by the exercise of national authority. From the National Board of Health alone can come any concerted, properly directed, or suitably maintained investigation; for it is but too true that scientific investigations are so costly that they are beyond the reach of most professional men. Scientific publications are so costly that they destroy the producer and the consumer alike. So strongly impressed am I of the truth of that which I have herein written, so distrustful of me to be the reason which have obtained in the past from what I believe to be a confounding of two distinct diseases, so persistent are the advocates of the theory that cholera is now an indigenous disease to these United States, and that therefore all quarantine regulations against that disease are futile, that it becomes an act of cowardly treason against the truth for those who are convinced by the constantly recurring, constantly repeated facts which indicate that acute infectious diseases are diffused over the surface of the earth in accordance with certain fixed and immutable laws, chief of which is human intercourse, influenced by the necessities, greed, and lusts of nations as well as individuals, to allow such utterances as this last cholera statement of the Cincinnati health officer to pass unchallenged.

The opportunity for solving the problem has at last arrived. The power of instituting a proper investigation is now in the hands of those who can see and truly administer justice. To that power, the National Board of Health, I will most respectfully ask permission to present the necessity which has existed, and which now exists, of a thorough and impartial investigation of the query, Is epidemic cholera a disease now indigenous to the United States?

NATIONAL BOARD OF HEALTH ROOMS are located corner Fifteenth and H streets, n. w.

LOCAL OUTBREAKS OF FEVER.

The occurrence of fever in isolated localities with few inhabitants affords the best opportunity of determining the special conditions which favor its propagation or spread from place to place, and from person to person. The following reports on local outbreaks are interesting illustrations of these conditions:

CASES NEAR MEMPHIS.

The Horn Lake Road, Tennessee.—Inspector B. W. Winn reports as follows, September 15:

The Arnold and Glenn families reside on this road, seven miles south of Memphis. Thus far the following cases have occurred in the following order: Mr. F. M. Arnold, aged 50; Turner Clemens, aged 6; Miss Ella Arnold, Mrs. Arnold, Mr. Sutton; Mrs. Arnold, sr.; colored girl; colored man; Mrs. Sallie Freeman. All the above lived in one house.

The following cases have occurred in the Glenn family: T. L. Glenn, aged 19; R. T. Stoddard, aged 29; W. H. Enes.

August 20 Mr. F. M. Arnold was taken sick. Not supposing it was yellow fever no precautions to secure isolation were taken by his physician. Mr. Arnold died with suppression and black vomit August 25.

August 21 Turner Clemens, a grandson of Mr. Arnold, was taken with the fever. The boy is now up and about. August 23 Miss Ella Arnold was attacked, dying on the fourth day of her illness. September 1 Mrs. Arnold, jr., and Mr. Sutton were taken with the fever, both dying. September 4 a colored girl living with the family was attacked. She is now convalescent. September 6 Mrs. Arnold, sr., was taken sick with the fever, and on the 7th instant a colored man. On the same day Mrs. Freeman was attacked with the same disease. These latter cases are still very sick. Mrs. Freeman and the colored man will very probably recover, but slight hopes are entertained, however, of the recovery of Mrs. Arnold, sr.

Of the nine members of the Arnold family four are already dead, one has recovered, one convalescent, and three still sick.

When Mr. Arnold was first taken sick he was attended daily up to the day previous to his death, by his sister, Mrs. Glenn, who lives only about one hundred yards from the Arnolds.

September 3 the first case appeared in this family; Mr. T. L. Glenn, aged 19, being taken down. September 7 Mr. R. T. Stoddard, aged 29, a son-in-law of Mr. Glenn, was taken and died September 11.

September 10 Mr. W. H. Enes was attacked. Mr. T. L. Glenn made a good recovery, but Mr. Enes is still very sick. There are five other members of this family liable to the fever and who will very probably have it as they are in constant attendance upon the sick.

It is very evident that the fever was introduced into the Glenn family by Mrs. Glenn, although she herself has not as yet been attacked. The following facts bearing upon the introduction of the disease into the Arnold family have been established: When the fever was first announced in Memphis Mr. Arnold, in company with his brother-in-law, Mr. Glenn, visited the city for the purpose of purchasing a supply of provisions preparatory to establishing a *strict quarantine* against Memphis so far as their respective families were concerned. This determination on their part was faithfully carried out until August 13, when a family of refugees from Memphis had the misfortune to break their wagon in front of Mr. Arnold's house. In spite of his former determination he assisted them in repairing the wagon and reloading it. The load being rather too large for an injured vehicle Mr. Montana (the refugee) requested the privilege of leaving some supplies and part of the bedding on the porch of Mr. Arnold's residence for a few hours. This request was granted, and in the course of three or four hours Mr. Montana returned for and carried them away. Mr. Arnold was also in the habit of selling watermelons to hucksters from the city, going into the field with them to select the melons. Beyond these two sources of infection no other cause for the disease can be found.

PASS CHRISTIAN, MISS.—Inspector Dr. Geo. X. Smith, under date of September 23, reports that he had visited the Miller family, and found the two younger children convalescent from yellow fever. All the family had the fever, except the father, who occupied a cottage about 300 feet from the house, and had no intercourse with the sick; the two children had visited the mother during her convalescence. The premises were disinfected, and the house is to be fumigated when the children are well.

HOPEFIELD, ARK.—Dr. John B. Cummings reports as follows upon a suspicious case which occurred at this place:

The house in which the patient died is about one mile from Hopefield, on the railroad. Yellow fever existed in the same house last year. A few days before the patient took sick she washed some blankets and bedding used by yellow fever patients last season. The symptoms of yellow fever were sufficiently marked to make it a very anxious case to us. This case and one other, now under treatment, are the only cases with any symptoms of yellow fever.

ABSTRACTS FROM CONSULAR REPORTS.

SAGUA LA GRANDE, CUBA.—United States Commercial Agent J. F. Swords reports as follows:

It is absolutely impossible for me to furnish the information desired for the reason that the municipal archives of this town contain no records whatever of vital statistics or meteorological observations. The regulations in force simply require the attending physician to certify to the parish priest that a person named is deceased, when a permit is granted for burial in the town cemetery. No statement of the cause of death is recorded other than upon the bill of the medical attendant, rendered to the family of the deceased for medical attendance.

PORTUGUESE QUARANTINE AGAINST NEW YORK AND NEW JERSEY.—United States Consul H. W. Diman writes from Lisbon to the State Department, under date of August 28, 1879, as follows:

Referring to my dispatch, No. 50, of the 2d instant, on the subject of the quarantine established by the Portuguese authorities on all vessels coming from the Atlantic ports of the United States, I now have the honor to inform the Department that the decree of the 31st of July was, on the 6th of August, modified so that the ports of New York and New Jersey, instead of being considered as *infected* are considered as *suspected* of yellow fever, like all other Atlantic ports. This modification makes but little practical difference, as all vessels from suspected ports bound to any ports in Portugal, the Azores, or Madeira must come to Lisbon to perform quarantine, and if their cargoes are "susceptible," they must discharge a portion, and have the vessel fumigated. As most of the cargoes from the United States consist of grain, in bags, which is classed as "susceptible," all such vessels are obliged to partially discharge in quarantine. For vessels bound simply to Lisbon, this is very inconvenient, but for vessels bound to the other ports of the kingdom and the Azores and Madeira, it not only causes great inconvenience, but great delay and heavy expense. As I stated in my former dispatch, I consider the imposition of this quarantine both unwarranted and unnecessary. Since the promulgation of this decree, eleven vessels coming from the United States have been obliged to perform quarantine in Lisbon, discharge a portion of their cargoes, and fumigate the remainder. All of these vessels brought clean bills of health from the Portuguese consuls at the ports from which they sailed, and not one of them had a single case of sickness on board. On the 5th of August a telegram was sent by the minister of the interior to the consul in New York, inquiring if yellow fever had existed as an epidemic in New York, or any Atlantic city, since July 1st. The reply was, that it had not. I have received the BULLETINS of the National Board of Health at Washington, of July 19th, 24th, August 2d and 9th, in all of which it is declared that yellow fever exists as an epidemic only in Memphis and New Orleans. These I have shown at the Bureau of Public Health, and at the same time have explained the great distance of Memphis from the Atlantic coast, and the great precautions there taken to prevent the spreading of the fever, as well as the freedom of all Atlantic ports from the disease. Seeing no intention on the part of the authorities to modify their regulations, and the complaints of ship-masters and owners of cargoes being so frequent and pressing, I have reported all the facts in the case to Mr. Moran, hoping that by his representations the government may take some action in the matter.

HAVANA COMMISSION.

SEAPORT AND INTERIOR TOWNS OF CUBA.—Dr. Chaillé, of the Havana commission, sends the following report of an inquiry into the sanitary condition of Cuban cities and towns, September 11, 1878:

During the eleven days—August 24 to September 3—I traveled by rail and boat over 400 miles to inspect Matanzas, Cardenas, and Cienfuegos, the three ports from which, with the addition of Havana, proceed about three-fourths of all the vessels which sail to the United States from the total fifteen "ports of entry" of Cuba. At Matanzas there is but little yellow fever, at Cardenas it is worse than ever known before, at Cienfuegos diligent inquiry disclosed only 3 deaths during 1879, viz, 2 in January and 1 in June.

The desperately insupportable condition of the people and of the city of Havana presents a fair but somewhat exaggerated example, not only of the above three cities, but also of all the fifteen or twenty towns and villages which I have thus far seen in Cuba. Every one assumes me that I would everywhere find the same conditions.

Havana, Matanzas, Cardenas, and Cienfuegos were founded in the order they are mentioned, and, as a result of this, it is observable that, in the same order, the streets and sidewalks become wider, as also the house fronts. It would be difficult to specify any other important particulars in which the unsanitary evils at Matanzas, Cardenas, and Cienfuegos are not almost as bad as at Havana, and, ex-

cepting the fact that Cardenas, where yellow fever greatly prevails, has a lower, more swampy, and worse drained site, it would be difficult to specify any other local condition as to which Cardenas is in a worse plight than Matanzas, where there is little yellow fever, and Cienfuegos, where there is none. While a difference in the relative number of the unacclimated at these cities may aid to partially solve the problem, still something more seems to be necessary for a full solution—a something which I have not grasped any more than innumerable others who have, for more than a century, worked over this problem.

The shipping at Havana is infected every year, at Matanzas and Cienfuegos less frequently, and at Cardenas neither now nor ever, as is alleged by all whom I have been able to consult. In all essential particulars I believe these statements to be facts, and that their explanation is to be found in the *different sizes* of these harbors and in the *different distances* at which vessels are habitually anchored from the shore. For example, Cardenas has the largest harbor, twelve by

eighteen miles in magnitude, and here vessels anchor farthest from the shore, from two-thirds of a mile to two miles distant. This explanation of the facts has an important bearing upon the costly remedy so often proposed and so zealously urged as a certain means of preventing the infection of the shipping at Havana, viz, the cleansing out of its comparatively very small harbor, together with the digging of one or even two canals, by which the water of this harbor would be, as is alleged, constantly and adequately renewed. By nature, the water of the harbors of Matanzas and Cienfuegos, where the shipping is frequently infected, is purer than art *could* render the water of Havana's harbor; and art will never enable the vessels in the latter to anchor as far from the shore as in the other two much larger harbors. It therefore follows that the proposed canal into and cleansing out of the harbor of Havana might somewhat diminish, but would not prevent, the infection of the shipping, to which I believe the poison passes from the shore rather than from the water of the harbor.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Cholera.		Yellow fever.	Smallpox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Total deaths.	Annual rate per 1,000.	Weekly mean.				
				Cases.	Deaths.								Barometer.	Thermometer.			
1870.																	
Vancouver's Island	Victoria	3,500	Sept. 6	..	..	1	..	..	..	..	1	14.9	30.00	62.0
Do	do	3,500	Sept. 13	..	..	..	..	..	..	..	1	14.9	30.30	63.0
Canada	Montreal	135,000	Sept. 6	..	..	..	10	25	..	21	91	33.2	..	..	
Do	do	135,000	Sept. 13	..	..	..	8	25	..	23	77	29.7	..	..	
Do	Kingston	15,000	Sept. 13	..	..	..	..	..	..	..	18	62.6	..	..	
Do	do	15,000	Sept. 20	..	..	..	..	..	..	..	4	13.9	..	..	
Do	St. John's	5,000	Sept. 14	..	..	..	..	..	..	..	1	10.4	..	54.0
Do	do	5,000	Sept. 20	..	..	..	..	..	..	..	7	..	29.81	58.8
New Brunswick	do	..	Sept. 13	..	..	..	..	..	..	..	2	..	30.01	57.7
Do	do	..	Sept. 13	..	..	..	..	14	1	..	3	13.0	30.04	58.6
Prince Edward's Island	Charlottetown	12,000	Sept. 20	..	..	..	..	..	..	..	3	10.2	30.06	78.0
Bermuda Islands	do	15,293	Sept. 9	..	..	..	..	..	..	..	2	6.2	30.17	78.0
Do	do	15,293	Sept. 15	..	..	..	..	..	..	..	3	10.2	30.06	78.0
Bahamas Islands	Nassau	12,000	Sept. 13	..	..	..	..	..	..	..	..	..	..	..
Do	do	12,000	Sept. 20	..	..	..	..	..	..	..	..	..	..	..
Haiti, West Indies	Aux Cayes	8,000	Aug. 27	..	..	..	..	..	..	..	4	26.0	28.60	84.0
Do	Cape Haytien	7,500	Aug. 2	..	..	..	..	..	..	..	10	69.5	..	..	
Do	do	7,500	Aug. 9	..	..	..	..	..	..	..	8	55.6	..	..	
Do	do	7,500	Aug. 16	..	..	..	..	..	..	..	11	76.5	..	..	
Do	do	7,500	Aug. 23	..	..	..	..	..	..	..	9	62.6	..	..	
Do	do	7,500	Aug. 30	..	..	..	..	..	..	..	12	83.4	..	..	
Do	do	7,500	Sept. 6	..	..	..	..	..	..	..	7	48.7	..	..	
Cuba, West Indies	Cienfuegos	20,218	Sept. 11	..	..	..	..	..	..	..	16	41.3	30.04	85.0
Do	do	20,218	Sept. 15	..	..	..	..	..	..	..	15	38.7	30.01	86.0
Do	Havana	195,437	Sept. 6	..	85	6	..	..	..	..	..	..	28.80	81.0
Do	do	195,437	Sept. 13	..	33	3	..	..	..	..	..	..	30.00	84.0
Mexico	Matamoros	16,000	Sept. 6	..	..	..	..	..	..	..	10	42.6	29.92	74.8
Do	Vera Cruz	15,550	Sept. 7	..	..	..	..	..	..	..	11	35.5	29.95	84.0
United States of Columbia	Panama	14,000	Sept. 13	..	..	..	1	..	..	..	10	37.3	..	83.2
Ireland	Countytown	10,000	Sept. 6	..	..	..	..	..	..	..	4	20.9	..	..	
Do	do	10,000	Sept. 13	..	..	..	..	..	..	..	3	15.6	..	..	
Do	Londonderry	30,000	Sept. 1	..	..	..	..	..	..	..	..	..	..	..
Do	do	30,000	Sept. 6	..	..	..	..	..	..	..	..	..	..	..
Do	do	30,000	Sept. 13	..	..	..	..	..	..	..	..	..	..	..
England	Liverpool	538,338	Sept. 6	2	13	38	19	248	24.0	30.09	57.3		
Do	do	538,338	Sept. 13	1	..	11	4	92	28	264	25.6	29.61	56.0	
Do	London	1,628,806	Sept. 6	137	1,393	20.0		
Do	do	1,628,806	Sept. 13	102	101		
France	Paris	1,888,806	Sept. 4	26	930	21.1		
Do	Toulon	77,000	Sept. 7	30	19.8		
Do	Nice	49,777	Sept. 6	7	4	34	35.6	30.20	72.7	..		
Belgium	Antwerp	145,981	Aug. 30	81	24.8		
Do	do	145,981	Sept. 6	12	..	9	3	..	105	12.2		
Do	Brussels	309,482	Sept. 7	4	11.0	29.77	61.0	..		
Do	do	309,482	Sept. 14	76	9.9	29.77	63.3	..		
Germany	Frankfurt	126,000	Aug. 30	46	24.6	30.00	75.6	..		
Do	Leipsic	145,719	Sept. 6	25	4	29.76	72.5	..		
Do	Bremen	165,000	Aug. 30	37	18.4		
Prussia	Berlin	1,062,500	Aug. 23	38	7	121	44	019	..	29.78	70.9	
Do	do	1,062,500	Aug. 30	39	1	124	47	566	..	29.49	70.3	
Do	do	1,062,500	Sept. 6	37	6	125	48	872	..	30.04	68.5	
Holland	Rotterdam	117,000	Sept. 6	69	24.5	30.15	67.8	
Do	Amsterdam	225,000	Aug. 26	101	23.4	29.81	61.2	
Denmark	Copenhagen	97,410	Sept. 6	46	24.6	30.00	75.6	
Italy	do	97,410	Sept. 13	
Do	do	
Austria	Trieste	127,874	Aug. 30	1	103	42.0	
Russian Poland	Warsaw	336,704	Aug. 30	1	135	24.0	29.47	63.3	..	
Sweden	Stockholm	102,500	Aug. 30	1	70	23.5	29.49	62.2	..	
Norway	Christiania	113,000	Aug. 30	1	49	22.6	29.49	67.1	..	
Algeria	Algiers	68,055	July 6	6	55	42.1	30.00	70.2	..	
Do	do	68,055	July 13	6	35.3	30.02	75.2	
Do	do	68,055	July 20	19	37.6	29.93	75.6	
Do	do	68,055	July 27	10	29	68.2	30.00	73.0	..	
Do	do	68,055	Aug. 3	5	44	33.7	29.98	74.7	..	
Do	do	68,055	Aug. 10	22	30.8	29.99	76.1	
Do	do	68,055	Aug. 17	16	35.7	29.87	76.6	
Do	do	68,055	Aug. 24	6	35.3	29.98	78.0	
Do	do	68,055	Aug. 31	3	29	39.8	29.98	77.5

The reports of diseases and deaths from Berlin are for the hospitals only.

Report of mortality in cities of the United States for the week ending September 20, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths. Annual death rate per 1,000.	Cerebrospinal fever.	Consumption.	Diarrhoeal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malaria fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Me. . . Bangor	20,000	1	6	15.6		3			1								
N. H. . Concord	14,000	2	7	15.2													
Mass. . Boston	375,000	68	131	18.2		20	22	5		6	1						
Cambridge	50,000	6	12	12.5		2	2						1			1	3
New Bedford	27,000	4	19	36.7	1		5	1					1				
Newburyport	13,500	1	7	26.4													
Fall River	48,500	21	22	6		3	1									1	
Marblehead	7,500	1	6	9		1											
Nantucket	3,000	1	17.3														
Plymouth	6,334	1	8	2		1											
Lowell	52,000	13	23	8		1											
Lawrence	40,000	3	13	16.9		6	2									1	
Brockton	12,000	1	3	13.0		1			1								
Somerville	23,000	2	6	13.6		3	1	1									
Springfield	3,900	2	5	67.9		1											
Bridgewater	1,700	1	3	92.1													
Edgartown	10,000	1	11	5.2													
Pittsfield	101,500	8	24	12.3	1	2	1	2	2				4				
R. I. . . Providence	60,000	14	27	23.4	1	3										1	
Conn. . New Haven	16,500	1	3	3.2													
Vt. . . Burlington	1,090,563	28	3	23.8	1	76	7	3	54	9	5	2	11			3	9
N. Y. . . New York	18,000	3	5	11.5		1	2										
Binghamton	561,148	104	20	21.3		36	30	16	3	15	3		1	2		2	5
Brooklyn	19,000	1	6	16.1		1				1							
Yonkers	30,000	1	4	10.1						1							
Poughkeepsie	17,568	2	1	5.9		1				1							
Newburgh	8,744	1	3	7.1													
Hudson	35,000	3	5	7.1													
Utica	90,000	9	11	6													
N. J. . . Hudson County	199,000	36	71	18.6	1	6			6							2	1
Newark	132,000	19	50	19.7	1	6	4	1					5				
Penn. . Philadelphia	901,380	84	36	15.5	1	51	12	3	11	1			3			1	1
Eric	30,000	3	7	12.2		2	1			1						3	2
Reading	80,109	8	16	29		2				1							
Pittsburg	145,000	21	32	18.7		3	3	17	3				1			3	1
Del. . . Wilmington	41,109	4	10	11.8													
Md. . . Baltimore	46,000	46	129	16.8	2	25	8	9	2	3	2				5	2	1
District of Columbia*	100,000	35	49	22.5	1	10	7			4	2					3	1
N. C. . . Norfolk	24,600	8	15	32.6		1										3	2
S. C. . . Richmond	80,000	19	39	25.1		4	2										
S. C. . . Charleston	57,000	9	20	23.8		1											
Ga. . . Savannah	32,656	12	24	45.1	1	6											
Brunswick	3,000	2	4	69.5		1	1										
Atlanta	39,000	5	12	16.0		2											
Rome	5,000	1	3	31.2		1	1										
Fla. . . Jacksonville	10,000	3	3	15.6	1												
Ala. . . Mobile	15,000	4	6	20.8	1												
Miss. . Vicksburg	5,300																
La. . . New Orleans	7,000	6	7	22.0													
Shreveport	39,000	4	7	12.2		2											
Tenn. . Memphis	15,500	2	5	16.8		1	2										
Ark. . . Little Rock	22,000	5	10	23.7		3			3	1							
Tenn. . . Jackson	7,500	1	4	27.8													
Nashville	27,085	10	20	38.5		2	5			1	2						
Franklin	1,000	1	1	29.0													
Chattanooga	12,000	2	1	17.7													
Ky. . . Louisville	175,000	15	46	13.7	1	3	2		1								
Va. . . Wheeling	35,000	8	14	20.8		1	2		2								
Ohio . . Cincinnati	250,000	26	72	13.1		13	6	1		1						2	1
Dayton	5,500			9.5													
Gallipolis	175,000	29	47	11.0		1	3	3	2							1	1
Mich. . . Port Huron	8,200																
Lansing	10,000																
Iud. . . Evansville	40,000	5	11	15.2		2	1										
Indianapolis	97,000	8	24	12.9		2	4										
Franklin	4,000	1	1	13.0													
Richmond	14,000			2													
Ill. . . Chicago	577,624	75	156	15.1	1	11	17	19	6	1							
Peoria	10,000	1	10	13.0													
Quincy	75,000	1	9	13.4		1											
Wis. . . Milwaukee	121,000	21	43	18.0		3	1	11	1								
Minn. . Saint Paul	51,000	3	1	11.1													
Minnesota	52,000	9	16	16.0	1	3	1										
Iowa . . Keokuk	15,000	2	3	10.1		1	1										
Mo. . . Saint Louis	500,000	17	102	10.6	1	14	8	1		1			1				
Nehr. . Omaha	30,000	6	8	13.9	1	1				1			1				
Cal. . . San Francisco	5,000		1	10.1													
Vallejo																	
Totals	7,414,940	1,102	2,511	17.9	1*	965	280	121	6	115	46	6	6	27	61	40	

* District of Columbia has 196,000 white, 51,000 colored; deaths, 33 white, 26 colored. Rate per 1,000, white 14.2, colored 6.7. Norfolk has 110,000 white, 9,903 colored; deaths, 5 white, 10 colored. Rate per 1,000, white 1-5, colored, 52.6. Richmond has 60,000 white, 54,000 colored; deaths, 10 white, 27 colored. Rate per 1,000, white 11.3, colored, 44.5. Charleston has 25,000 white, 32,000 colored; deaths, 6 white, 20 colored. Rate per 1,000, white 12.4, colored, 42.6. Savannah has 15,400 white, 15,953 colored; deaths, 7 white, 15 colored. Rate per 1,000, white, 20.7, colored, 54.5. Nashville has 17,555 white, 9,500 colored; deaths 13 white, 7 colored. Rate per 1,000, white, 38.5, colored, 78.4.

The following reports for the week ending September 20 are from places not known to require burial permits:

Allegheny, Pa., population 75,000; deaths 30; under 5 years 14; consumption 2, diarrhoea 4, diphtheria 10, pneumonia 1, scarlet fever 1. Ann Arbor, Mich., 7,500; deaths 2; under 5 years. Augusta, Ga., 26,571; deaths 19; under 5 years 3; consumption 2, diarrhoea 2, lung diseases 2. Anurora, Ill., 11,550; deaths 5; under 5 years 2; consumption 2, diarrhoea 1. Bath, Me., 10,000; one death; typhoid fever. Battle Creek, Mich., 7,500; deaths 5; under 5 years 1. Belfast, Me., 3,278; one death. Benton County, Miss., 11,000; two infants, 3 days old. Burlington, Iowa, 30,000; deaths 5; under 5 years 4; diarrhoea 2. Calais, Me., 7,000; deaths 3; under 5 years 2; consumption 1. Carrollton, Miss., 600; no deaths. Columbus, Ga., 10,000; deaths 4; under 5 years 1; consumption 1, malarial fever 1, whooping cough 1. Dallas, Tex., 20,000; deaths 2; under 5 years 1; dysentery 1, malarial fever 1. Davenport, Iowa, 25,000; deaths 11; under 5 years 4; diarrhoea 2, cerebro-spinal fever 1, pneumonia 1, measles 1, whooping cough 1. Deaton, Miss., 1,000; no deaths. Dixon, Cal., 1,300; one, under 5 years. Dubuque, Iowa, 20,000; deaths 4; consumption 1, lung diseases, none. 5. Fayette, Miss., 300; no deaths. Flint, Mich., 10,000; no deaths. Greenwood, Miss., 400; no deaths. Gun City, Mo., 100; no deaths. Helena, Ark., 5,000; no deaths. Helena, Mont., 3,500; no deaths. Hernando, Miss., 1,200; no deaths. Indianapolis, Tex., 900; one death, under 5 years. Jackson, Miss., 5,000; deaths 3; under 5 years 1; consumption 1, diarrhoea 1. Lawrence, Kans., 8,478; deaths 5; under 5 years 1; diphtheria 1, typhoid fever 1. Louisiana, Mo., 5,000; no deaths. Moline, Ill., 7,000; no deaths. Monmouth, Ill., 6,000; deaths 3; under 5 years 2; cerebro spinal fever 1, diarrhoea 1. Morton, Miss., 200; one death; diarrhoea. Mount Pleasant, Iowa, 5,000; no deaths. New Bern, N. C., 7,500; deaths 3; under 5 years 2; malarial fevers 3. Niles, Mich., 1,630; deaths 2; under 5 years. Norwich, Conn., 17,000; deaths 6; under 5 years 1; consumption 2, typhoid fever 1, whooping cough 1. Okolona, Miss., 3,000; no deaths. Pensacola, Fla., 8,500; deaths 3; consumption 1, malarial fever 1. Portsmouth, Va., 11,000; no deaths. Quarantine Hospital, New York, 1 case of malarial fever; no deaths. Ripley, Miss., 1,000; no deaths. Sacramento, Cal., 25,000; deaths 7; under 5 years 1; consumption 1, diarrhoea 1, malarial fever 1, whooping cough 1. Salt Lake City, Utah, 25,000; deaths 12; under 5 years 6; diarrhoea 3, diphtheria 4, puerperal fever 1. San Diego, Cal., 3,000; no deaths. Santa Barbara, Cal., 4,000; deaths 6; under 5 years 1; consumption 3, diphtheria 1. Shelbyville, Tenn., 2,000; no deaths. Sing Sing, N. Y., 5,000; deaths 8; under 5 years 2; consumption 1, diphtheria 1, lung diseases 2, malarial fevers 1. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 4,000; one death under 5 years; diarrhoea. Waterbury, Conn., 16,000; deaths 3; under 5 years 2. Wesson, Miss., 2,000; typhoid fever 1. Youngstown, Ohio, 17,000; deaths 3; under 5 years 2; crump 1, pneumonia 1, whooping cough 1.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

QUARANTINE STATIONS IN MISSISSIPPI.—Inspector Wirt Johnson reports as follows, September 9:

I have the honor to report to you that the Mississippi State board of health, by your authority and assistance, has established six quarantine stations for the protection of this State against yellow fever. These stations are conducted in accordance with the rules of the National Board of Health. The following is a list of the quarantine officers at these stations and a partial list of the other employees:

Michigan City.—Dr. George E. Redwood, quarantine officer; Dr. M. J. Lowry, sanitary policeman; Hardy Evans, cook.

Osgoda.—Dr. W. C. Warren, quarantine officer; Dr. William Jones, sanitary policeman; James Mitchell, cook.

Pull's Landing, near Columbus.—Dr. C. A. Rice, quarantine officer; John S. Shaw, sanitary policeman; Jordan Jackson, nurse; John Williams, cook.

Port Adams.—Dr. E. I. McGhee, quarantine officer; E. A. J. McHenry, sanitary policeman.

Corinth.—Dr. J. M. Taylor, quarantine officer; C. A. Lusk, sanitary policeman; L. J. Dancy, nurse; Kate Holmes, cook.

Hannibal.—Dr. H. J. Ray, quarantine officer; Henry Hayden, cook.

SANITARY INSPECTION OF STEAMBOATS.—Inspector Dr. A. N. Bell established the following details of inspection of steamboats at New Orleans, to carry out the rules and regulations recommended by the National Board of Health, to be observed at the place of departure when yellow fever exists there or in the vicinity:

Inspectors of steamboats and other vessels will carefully examine and report upon the condition of—

All bedding and bedclothes, of whatever kind; that which presents any evidence of impurity should be prohibited. State feather or hair mattresses, bolsters, and pillows, should be prohibited or required to

be renovated by high heat. Wire mattresses, bolsters, and pillows should be recommended in place of all other material. All cotton comforters and soiled clothing not washable in boiling water should be prohibited. Woolen carpets, rugs, and curtains should be prohibited. They may be substituted by matting or by material washable in boiling water. Any decayed wood in the decks or floors should be looked for and required to be replaced by sound wood forthwith, or be left exposed without covering of any kind, and required to be saturated daily with a boiling hot solution of copperas—one quart of copperas to the pailful of boiling water.

Upholstered furniture of all kinds should be advised against, and any which presents evidence of retained dirt or of long use prohibited. Cane, or other material not liable to hold dust and dirt, should be recommended in place of all upholstered furniture. All kitchen, pantry, or other decks or floors subject to frequent wettings and dampness should receive a last washing daily with hot copperas water. All storerooms and closets should be looked into, and the stowing away of damp or soiled clothing therein prohibited. Water-closets and urinals should be scrupulously clean and odorless.

The hold and keelson of all steamboats and other vessels should be examined with special care, and whenever any bilge-water or offensive odor is present cleansing should be required by pouring in and pumping out water, by the use of the syphon pipes for conveying steam at as high a heat as practicable under the damage, and by the use of copperas until all foul odor is removed. Merely damp holds and keelsons should be sprinkled with copperas to prevent mustiness.

Barges should be examined with the same care as steamboats. Whenever there is evidence of bilge-water or dirt in the keelson, which may be detected by the pump-water or at the ends of the flooring (the damage) fore and aft, the damage next to and longitudinal with the keelson should be removed and thorough cleansing required in the manner already described for steamboats. The open spaces at the ends of the damage and the bottoms of the scuppers and ventilators communicating with the keelson should be kept sprinkled with copperas.

THE INSPECTION STATION AT ISLAND NO. 1, MISSISSIPPI RIVER.

—Dr. F. W. Reilly, in charge of this station, after giving a minute description of the inspecting boat, adds the following remarks:

The unlooked-for outbreak of yellow fever at Memphis at such an unprecedentedly early date, threw the river towns into a panic which seriously impeded all attempts to establish inspections, or, in fact, any other preventive measure save the enforcement of absolute non-intercourse. Owners of boats and barges either refused outright to charter their craft for inspection and quarantine purposes, or demanded a rate of rental which would in a short time amount to the actual value of the vessel. It was under these untoward circumstances that this boat was finally obtained through the efforts of Capt. W. L. Hamblenton, a public spirited citizen of Mound City, Ill., who went to Saint Louis and bought the "Vausant" for this special use. The delay occasioned by the panic and opposition referred to, and the urgent need of surveillance of river traffic at or near Cairo in order to protect the States of Illinois, Missouri, Kentucky, Indiana and Ohio from a repetition of the "J. D. Porter" visitation of 1878, and that of the towboat "Bea" in 1873, left no time to complete repairs; but, after such work as was absolutely necessary, the boat was towed down to this station on Sunday forenoon, August 10.

I risk nothing, I think, in saying that this has now been accomplished; and I have only to add in conclusion that the practical value of the inspection system has, in my judgment, received ample confirmation in the immunity of the Ohio and Upper Mississippi River towns from yellow fever this season. Both railroad and boat inspections at this important point, Cairo, covering the two great rivers and five states, have been made continuously since July 15, up to July 25 by myself unaided and frequently under the most adverse circumstances. Before this station was established I was personally a witness to the efforts of Inspector J. H. Ranch, made at the expense of comfort and convenience in boarding steamboats in the rivers from tug or skiff and meeting incoming trains along the line of road, and this at all hours day and night and in all weathers.

Although this establishment is by no means imposing in appearance nor in its expense account, and can hardly yet be said to be complete in its appointments, it is believed no necessary or pertinent work has been left undone.

HORN LAKE ISLAND, TENN.—Inspector B. W. Winn reports as follows, September 16:

Horn Lake Island is twenty-five miles south of Memphis on the Cow Island road. On date there have occurred the following cases, confined to two families, in the following order: Mrs. Krankel, aged 25; Mr. Krankel, aged 35; Mr. Krankel, aged 28. August 28, Krankel was attacked with the fever, but made a good recovery. September 5 Mr. Krankel was taken and is now convalescent.

September 11 Mr. Kreuter returned from the city to his temporary home on the island with the fever upon him. He died Sunday, Sep-

tember 14, at 11 a. m., with black vomit and complete suppression for thirty hours previous to death. About four hours before his death, Mrs. Kreuter while kissing her husband got and swallowed a mouthful of black vomit. She has not as yet been attacked with the disease. There are three children in the Kreuter and four in the Krankel family liable to the fever.

The following facts bearing upon the origin of the disease have been ascertained: About 15th of July, Mr. Krankel and Mr. Kreuter removed their families from the city to Horn Lake Island, twenty-five miles below Memphis. During July they did not visit Memphis, but did so quite frequently during August, remaining in the city a day or so each time. September 8 Mr. Kreuter visited the city to look after the brewery with which he was connected, and returned on the evening of the 11th with a high fever. No one from Memphis ever visited these families, as they were too far away and the roads very rough. After the death of Mr. Kreuter, his wife burned everything in the house, fumigated the room thoroughly with sulphur, locked it up and left the house altogether.

BAILEY STATION, TENN.—Inspector B. W. Winn reports, September 20:

Bailey's Station is nine or ten miles east by south from Memphis, on the Memphis and Chattanooga Railroad. Mr. H. L. Bedford resides one mile west of the station.

Louie Bedford, aged 12, daughter of Mr. H. L. Bedford, was attacked with fever about midnight of the 16th instant. Bennie Bedford, aged 7, son of Mr. H. L. Bedford, was attacked on the morning of the 15th.

A close examination into the clinical history of these cases proves, beyond a doubt, that they are genuine cases of yellow fever. Louie Bedford I found dying, having had black vomit for 12 hours previous to my visit; the urine heavily loaded with albumen.

The following facts as to the origin of these cases have been obtained: Mr. H. L. Bedford is a brother of Mr. Julian Bedford, who died of yellow fever September 3, and resides about four hundred yards from the residence of the latter. During the illness of his nephew, Mr. E. K. Bedford (a history of whose case I have already forwarded to the Board), he visited the house of his brother, sat up with, nursed, and helped to lay out his nephew. Two days later he was himself taken sick, the physician in attendance pronouncing it acute dysentery. He informs me, however, that he suffered with intense pain in his head, back, and limbs, had fever 72 hours, after which the diarrheal symptoms set in. After his recovery he again visited the residence of his brother and nursed him, he being at that time sick with the fever. His wife, Mrs. H. L. Bedford, also visited Mr. Julian Bedford during his illness.

Louie and Bennie Bedford slept in the same room with their father and mother, during and since the illness of E. K. and Julian Bedford. There is no evidence of any other exposure on their part.

There were four cases, one fatal, of yellow fever in the house now occupied by Mr. H. L. Bedford, during the epidemic of 1878. The patients were, Mrs. H. L. Bedford, her mother, nephew, and sister, the latter case terminating fatally. The bedding, &c., used by the patient who died, has been, since that time, stored in an out-house about fifty yards from the dwelling-house. That used by the other patients has been used by the family ever since, not having been disinfected.

Inspector Dr. J. H. Ranch writes as follows from the inspection station, Mississippi River, below Cairo, September 22, 1879:

Sir: On my return to Cairo from the inspection station on Monday last, September 15, I received a telegram from Vice-President Billings, and also one from Sanitary Inspector Wirt Johnson, announcing the existence of yellow fever at Concordia, Bolivar County, Miss., and at once notified Sanitary Inspector Keilly of the fact, and instructed him to allow no passengers or freight from Concordia or vicinity to be landed at Cairo or other Illinois towns. This outbreak has again demonstrated the value of the inspection system, since, notwithstanding the demoralization which ensued upon the announcement, there has been no interruption to river travel, and, with the exception of a few points below, there has been no resort to the former policy of non-intercourse. Among these points, however, are the two important Kentucky railroad termini, Hickman and Columbus. At both these places boats from any points south have been forbidden to land, and passengers for the Nashville Road, at Hickman, and for the Mobile and Ohio, at Columbus, have been obliged to come up to Cairo and take the Mississippi Central south to its intersections with those lines. I have not felt warranted in deprecating this action, nor in suggesting any exercise of authority by the Kentucky state board of health, as a member of the sanitary council, as I should probably have done had inspections below been begun sufficiently early to have established confidence in their thoroughness and efficiency.

There is marked evidence, however, of improvement in the details of these inspections during the past week, and I congratulate the

National Board upon securing the services of Dr. C. A. Rice as one of its inspecting corps. I have had some correspondence with him touching his trials and difficulties in enforcing the system, and judge him to be in downright earnest in his work, with a full comprehension of its scope and value and a determination and ability to carry it out. Learning from him that boats often refused to land at his station for inspection, I telegraphed, on the 15th, from Springfield, Ill., to the health commissioner at Saint Louis, and to the mayor of Cairo, requesting them to notify all Mississippi River boats to stop at the Mississippi stations on both their up and down trips. These notifications have been published in the daily papers, and will relieve him, I think, of the trouble complained of—since the river men cannot afford to neglect any hint looking to shutting them out of Cairo or Saint Louis.

Reference was made in my last to the inspection of two boats for United States mail service on the St. Francis and White Rivers, in Arkansas. Mr. Waldron, the superintendent of river mail service, called on me in Cairo, on the 15th, and stated that the suspension of mails on these streams has occasioned much financial and commercial trouble—drafts, remittances and registered letters having been thus prevented reaching the proper hands and having accumulated at this point and at Saint Louis. One of the boats started for the station, but was "snagged" and sunk above Cairo, and the other has not yet put in an appearance.

Heaving nothing from New Orleans in response to my telegrams of the 14th to Drs. Bemiss and Herick concerning train and boat inspection, and being informed that no certificates were issued, nor inspection made at Hammond's on the 17th, I again telegraphed Dr. Bemiss, on the 18th, from Springfield, asking if inspections and certificates were given up, and, if so, why; also informing him that trains will be inspected here until October 1. To this Dr. Bemiss replied that nothing from him had authorized such suspension; that the local board informed him that they were continued; and added that Dr. Bell was in New Orleans "looking after that alone." From your position in Washington, with the whole field under your eye, you will better appreciate than can those directly concerned in any one town or city, whether it be New Orleans or Memphis, the necessity which exists for keeping up, unrelaxed, until every semblance of danger shall have passed, the precautions which have, and with reason, restored confidence to this large area along the Mississippi and Ohio. As was justly remarked in a recent number of the B. H. B. N., and also in my own communications to the Board, September 18, "the most dangerous month of the season"; and it would be the shrewdest failure to now invite alarm, if not positive danger, by withdrawing the supervision which has thus far served so well. The end is rapidly approaching. I am daily congratulated on the success which has attended our efforts; and I feel that such congratulations are deserved in view of the substantial immunity of the region in which I have directly worked, and the fact that not a single case of yellow fever has developed among the thousands of passengers I have allowed to enter the State of Illinois. Do not let us mar this record by a premature abolition of necessary precautions whose enforcement entails little inconvenience and no hardship. It would not in the least surprise me if there should be a recurrence of the epidemic in Memphis even yet before frost, nor if there should be local outbreaks at any point where the fever occurred last year. Some of the severest epidemics have begun between September 1 and October 20, as in Mobile, Montgomery, and Selma, in Alabama, at Natchez, Vicksburg, Memphis, Cairo, and various points in Texas, Louisiana, Mississippi, and Tennessee. While the general health of the valley remains unusually good—a result undoubtedly due, among other causes, to general and more thorough sanitation—yet as the season advances there is a natural letting down of tone consequent upon prolonged heat and exposure to malarial influences, and at the same time the fact that the late autumn is the dangerous character of the month with reference to yellow fever. Then, too, there is every reason to anticipate warmer weather than prevailed during August and the early part of this month. During that period the temperature was very moderate in this region, on the 9th instant the extremes being 54 and 70. Within a few days the temperature has steadily risen, so that in the past twenty-four hours the extremes were 55 and 90. These various considerations have influenced me in determining to continue train inspections at least until October 1, and boat inspections for some time longer.

Noticing the continuance of new cases in the vicinity of Memphis, I inquired of Dr. Winn the probable cause, to which he replied that "all yellow fever now outside of Memphis has leaked out in dirt roads from communication with the city. There are no cases in towns along railroads." Another proof of the value of the sanitary supervision of railroads and of travel and traffic by rail.

It is to be regretted that Memphis herself could not be subjected to such supervision. Sanitation, as there practiced, has not, in my judgment, been directed with the intelligence and zeal her terrible lessons might have been expected to arouse. The opposition to the enforcement of Rule 6, concerning cotton, and the tearing up of the Nicholson pavement during the epidemic are quite in keeping with the removal of fever persons and refuse and night soil during July last. Dr. Johnson of the board and myself deprecated this latter action during our visit in July last, and discontinued the proposition then made to remove the Nicholson pavement before the advent of cold weather. I have telegraphed my support and indorse-

ment of Superintendent Johnson's enforcement of Rule 6, and from my knowledge of that gentleman feel convinced that he will not be swerved from the line of his duty by all the political demagogues who may clamor against him. During the conference held on board the inspection boat here on the 15th ultimo, my opinion was asked as to the best mode of dealing with this city. After proper deliberation and a careful review of the situation I would suggest that the National Board appoint an independent commission of sanitary experts (including a competent engineer, not necessarily a sanitarian) which commission shall decide upon a feasible system of necessary sanitary improvements for Memphis, and which, if not adopted and carried out by its citizens should relieve the rest of the country from the onus of supporting two-thirds of its population for three or four months in the year. It is neither expedient nor necessary that the general government should defray the expense of such a system, nor do I think it would be asked. But there are so many antagonistic elements in that community that I despair of their ever adopting and carrying out any scheme which may originate among themselves. This would seem a favorable time to suggest such a commission to prominent Memphians, who are now discussing, at Saint Louis and elsewhere, various more or less praiseworthy, but not uniformly practical, plans for the sanitary regeneration of their ill-fated city. I will venture to add that I think the step I suggest is entirely within the legitimate province of the board, and is one which would receive the cordial indorsement not only of Memphis but of the entire country, which has become tired of those repeated appeals for relief as well as impatient at the menace to public health and commercial prosperity which the city is, in its present condition.

En route from Springfield to the station at the close of the week, I stopped at Saint Louis to confer with its health commissioner and with Sanitary Inspector Kilpatrick. The latter gentleman informed me that he had received an extract from my communication of the 7th instant to your board, concerning some anomalies in the reported cases of yellow fever at Saint Louis. In the course of conversation on the subject I endeavored to emphasize the necessity of carefully tracing and recording the routes by which these alleged cases reached the city, as also the importance of securing full histories of all cases taken to quarantine. I am more than ever convinced that when this is done and the records of the epidemic come to be made up the questionable authenticity of many cases will be apparent.

On Saturday I invited Dr. Kilpatrick to accompany me in an inspection of the East Saint Louis stock yards, rendered necessary by complaints which had reached me of the practice of certain fertilizing, beef-canning, and kindred establishments disposing of offal in Cahokia Creek, a sluggish bayou which meanders through the town, and the mal odorous emanations from which threaten the public health.

I cannot conclude this communication without again referring to the necessity of a permanent inspection station at the junction of the Ohio and Mississippi Rivers. The interest of steamboatmen in the system continues unabated, and some of its bitterest opponents at the beginning are now its warmest advocates. If located just below Cairo, at the junction of the two rivers, the station would be within the jurisdiction of the State of Illinois, and thus all legal difficulties in the way of enforcing its rules and regulations would be avoided.

MISCELLANEOUS.

The report from Memphis for September 23, as given in the last number of the BULLETIN, was erroneous. We make the correction and continue the record from that date:

MEMPHIS.—September 23, 12 cases, 5 white; 5 deaths, 1 white. September 24, 13 cases, 10 white; 5 deaths, 4 white. September 25, 10 cases, 9 white; 7 deaths, 6 white. September 26, 8 cases, 4 white; 1 Chinese; 5 deaths, all white.

The following places are added to the list of those requiring burial permits:

Aurora, Ill., Bangor, Me., Binghamton, N. Y., Bridgewater, Mass., Dunkirk, N. Y., Edgartown, Mass., Elmira, N. Y., Franklin, Tenn., Knoxville, Tenn., Marblehead, Mass., Milford, Mass., Nantucket, Mass., Peoria, Ill., Pittsfield, Mass., Poughkeepsie, N. Y., Plymouth, Mass., Rochester, N. Y., Rome, Ga.

RESIGNATION OF A BOARD OF HEALTH.—The board of health of Grenada, Miss., resigned in a body, leaving that town without any organized health authority. The cause, as given by one of the members, was "the irrational, absurd, and prejudiced opposition of a few of the citizens to the adoption and enforcement of the rules and regula-

tions of the National Board of Health, while it was held responsible for the results of an impracticable, ineffective, and injurious non-intercourse system of quarantine."

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

FOND DU LAC, WIS.—Dr. E. Delaney states that this city of 14,500 inhabitants has no returns of mortality. It is estimated that 14 per cent. of the people use water running from fountains, 21 per cent. from bored wells, and 65 per cent. from common wells.

WHEELING, W. VA.—Dr. S. L. Jepson writes as follows, September 8:

This city is at present very much agitated by the prevalence of diphtheria, which has existed here for some months past and has been almost entirely confined to one section. Our laws not requiring physicians to report to the health officer any diseases except small-pox, cholera, or yellow fever, I cannot give the number of cases that have occurred. Of 24 deaths from diphtheria during July and August, 16 were in the fourth ward and 3 others in the third and fifth wards, adjoining the fourth on each side. The fourth ward contains a much larger population living in alleys than any other part of the city. These people are mostly poor, ignorant, and careless concerning the observance of any hygienic laws. Many of them, if placed in a palace, would soon render it a hovel as to filthiness. Whatever the city may do for this class of people, death will always reap a large harvest among them, because poverty and ignorance will ever combine to trample under foot all laws looking toward the permanent sanitary improvement of their homes. The population of Wheeling, as shown by a recent census taken for school purposes, is a little under 30,000, but allowing for omissions that number may be taken as nearly correct.

LOS ANGELES, CAL.—Dr. Walter Lindley reports upon the sanitary condition of this town under date of September 15:

This is a city of 14,000 inhabitants. It is situated 11 miles from the Pacific at an altitude of about 500 feet. There are always many people here from the Eastern States and from Europe—especially from England—with pulmonary difficulties. They are usually here under the direction of their home physician, and are, as a rule, benefited by this climate. The climate of Los Angeles conserves the vital forces. Burial permits are strictly required here. Reports of births are carefully collected, nuisances inspected and abated, and everything is done here that is usually done in large cities to preserve health and collate vital statistics. The sanitary system is nominally under the care of a board of health consisting of the mayor and four councilmen, but they allow the most of the responsibility to devolve upon the health officer. We had a few cases of scarlatina in the city last spring, but the authorities put forth every exertion and the disease was annihilated. We have an extensive system of sewerage, the sewage being finally used as a fertilizer.

THE EPIDEMIC IN GEORGIA.—Dr. S. B. Pearce, of Rockmart, Ga., writes as follows, September 19, about the reported severe epidemic prevailing in that State:

I am happy to state that the whole picture is monstrously overdrawn, and is very nearly if not entirely false. The disease is typho-malarial fever, with all of its leading and prominent symptoms fully developed, as observed by myself in former years. The first cases occurred in the latter part of June last, during some of the hottest weather, the temperature running very high—more so than usual in our mountainous and salubrious country—the heat ranging from 95° to 106° Fahr. I had the first case that occurred in this country, and diagnosed it to be typho-malarial fever. I have had ten cases in an area of about six miles, five of which were in this town and the rest in the country. Seven proved fatal. Four of the cases died in this town; one recovered. Two of the cases in this place relapsed after the fever had run its course and after convalescence had commenced, and also one in the country. The fever is and has been confined mostly to young persons, from 5 to 30 years of age, attacking alike male and female. It is, as usual, a slow fever, and requires from two to four weeks to run its course. The disease seems to be abating, as I know of but two cases in our vicinity, and one said to be in Paulding County. The cases that occur now are of a much milder type and more manageable than formerly, and we hope it may soon disappear entirely, though cases may continue to occur through a good part of the winter.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, OCTOBER 11, 1879.

[No. 15.]

CIRCULAR NO. 7.

The following rules govern the action of the National Board of Health at present in aiding state and local boards to enforce regulations of such boards preventing the introduction of contagious and infectious diseases into the United States, or into any one State from another:

1. The regulations to be enforced are those of state and local boards, whether adopted at the recommendation of the National Board or otherwise, and not those of the National Board. The National Board has recommended certain regulations for adoption by state and local boards. Up to the present time these recommendations have been adopted by the following boards, viz:

The state boards of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, New Jersey, North Carolina, and Tennessee; the local boards of Brunswick, Ga., Brownsville, Tex., Bayou Sara, La., Cairo, Ill., Carlinville, Ill., Decatur, Ala., Delhi, La., Fernandina, Fla., Huntingdon, Tenn., Jacksonville, Fla., Landerdale County, Mississippi, Meridian, Miss., Mobile, Ala., Pensacola, Fla., Shelbyville, Tenn., Saint Louis, Mo., Tampa, Fla., Vicksburg, Miss.

The regulations of the above-named boards are therefore to a certain extent uniform, and approved by the National Board, and therefore are such as it will aid in enforcing when necessary.

State and local boards which have not adopted the recommendations of the National Board are requested to do so as soon as convenient, in order to secure uniformity of action.

It should be observed that these recommendations are for a minimum amount of precaution, and therefore that additional precautions may be taken by state or local boards if deemed necessary, it being borne in mind all the while that the end in view is to secure or restore the public health by measures which interfere with travel or traffic as little as possible; in other words, to render commerce secure; and (with rare exceptions) *not to put an end to, or even suspend it*. In this connection it is proper to add that non-intercourse quarantines, especially by *local* authorities, are not approved by this Board.

2. Applications to the National Board of Health for aid should be made by or through the state board; or in case there is no state board, then by or through the Governor of the State.

3. Applications for aid should give details of what is required, and the estimated cost for each item. Amongst other things should be specified the duties and powers of the officers whose appointment or payment is requested.

4. The application should be accompanied by an official certificate from the Governor of the State or the mayor or other chief officer of the municipality, respectively, to the effect that there are no state or municipal funds available to carry out the particular sanitary measures because of which the application is made. Official information should be given therein of the adoption by such state or local board of any rules and regulations that have been recommended in such case by this Board, and of any other state or local rules and regulations that appear to be necessary for the purpose in question.

5. Of the supplies required for the sick those furnished by this Board to local authorities shall, as a general rule, be applied to other objects than those of shelter and furniture, which should be furnished by such authorities. Where however it shall be otherwise ordered the local authorities will be expected to account to this Board from time to time for the safe keeping and proper use of the furniture, provisions, medicines, &c., so furnished.

6. Whenever this Board shall order the erection of temporary buildings, or provide any buildings for the purpose of quarantine, the nec-

essary contracts therefor shall be made by one of its own officers or agents, subject to the approval of the Board or of its executive committee.

7. Care should be taken that the officers to be paid from funds furnished by the National Board are employed only in such number and for such time as there is actual need of their services. The National Board of Health reserves the right of judging from time to time, by means of reports received from its own agents, whether such need exists.

8. Funds are not furnished by the Treasury to state or local boards. They are placed in the hands of the disbursing clerk of the National Board of Health, by whom bills, properly certified and approved, will be paid by check on Washington or New York. All bills must be in accordance with the estimates as approved by the Secretary of the Treasury, must be made out in duplicate on forms furnished by the National Board, and be *certified*, as to their correctness, by some authorized officer of the state board or by the Governor of the State, and must be approved by some member or special inspector of the National Board duly authorized. All bills for services rendered or for articles furnished local or state boards must be sworn to by the person rendering the service or furnishing the articles.

The names of all persons whose services as inspectors, &c., are to be paid for out of its funds must previously to their appointment be submitted to and approved by the National Board.

It is expected that at the close of the season a full report will be made by state boards of health to the National Board as to their operations in carrying out those rules and regulations for the prevention of the spread of yellow fever, in which the National Board has rendered aid and co-operation, and it is desired that copies of all orders issued from time to time to inspectors shall be promptly furnished to this Board.

It is to be remembered that a full account of its expenditures must be made by the National Board of Health to Congress, and that such account ought to set forth these expenditures in detail, and exhibit their propriety and necessity.

It is therefore essential that state and municipal boards shall co-operate with the National Board in supplying material for such an account, and it is earnestly desired that they will preserve and furnish due evidence of the propriety of each item of their expenditure for both persons employed and articles purchased with the funds in question; particularly as the future aid of both State and National Boards must depend largely upon the record for efficiency and economy made during the year now current.

9. State and municipal boards of health which receive aid from this Board are requested to furnish weekly reports to this office of their operations, including copies of orders issued by them and of reports made to them by their quarantine and sanitary inspectors with reference to the occurrence of cases of yellow fever and to measures adopted for isolating such cases; such reports to be presented in a form suitable for publication in the BULLETIN.

STATES IN WHICH THERE IS NO HEALTH AUTHORITY.

Vermont is one of the States which has not as yet organized a board of health. Eminent as that State is in wealth, intelligence, and public virtue, her legislators have not attained to the grade of statesmanship which ranks the care of the public health, as Mr. Gladstone remarks, "first among the duties of the modern statesman." Had that State a competent State board of health, with proper in-

nicipal, town, and village health organizations, no piteous appeal for relief from a nuisance dangerous to life and detrimental to health would be heard beyond the limits of the town where the sufferer resides, nor would that appeal have been made to local authorities more than once, if, indeed, there would have been occasion to make it at all. The following letter tells its own story of human misery and suffering from an easily remedied nuisance, to which the common people of one of the thriving towns of a wealthy county of Vermont must submit, because there is no proper tribunal to which the sufferer can readily appeal. Such a grievous nuisance as this poor lady complains of, and to which seventy other souls quietly submit, would not remain an hour unredressed, even had it been allowed to exist, in the presence of an efficient board of health:

NORTH TROY, ORLEANS COUNTY, VERMONT,

September 22, 1879.

SIRS: Having been in trouble for a long time and not finding a way to extricate myself, I apply to you for assistance. It is in this wise: There is a bog about two rods back of my house, which runs the whole length of our street, which numbers eleven houses, and they contain about seventy souls. Over this ditch are two water-closets two barns with hog-pens, so that said ditch takes all the filth. A few rods below my house is a railroad, which stops it all, so that my ditch is full of this filth the year round. We are some of us sick most of the time, and have been for years. We have had rheumatic and typhoid fevers, and I am dying by inches with sciatic rheumatism. We have two physicians in our village; they have entered complaints; I have complained to town officers and to the railroad company, but they seem to think it is of more importance to save their money than our lives. If you will attend to it the town is good for it. I therefore pray you will come to our relief. About a month since I went to one of our lawyers; I thought to oblige them to clear out this railroad nuisance, but he has repeatedly put me off; he is going to do something but does not do it. Now please do not cast us aside. It is terrible to live in this atmosphere. There is a stinking green scum standing on the water in warm weather. I will say no more, hoping to hear from you soon. Almost sixteen years has passed since my husband was killed in the Wilderness battle; he left me with four little children, with the promise from our neighbors that his family should be well cared for. We have received but little pity in our terrible hardships and sickness, but I hope your hearts are not stone, and that you will do this little for us. Will you not?

MRS. A.—.

To those who see rural villages only as they stroll along shaded avenues and past the graded lawns which beautify the residences of the wealthy, such a hideous picture of domestic suffering from an open and public cess-pool in a New England village will seem a gross exaggeration. But to those who approach such villages through the by-ways or enter the residences through the rear yards, the complaint of Mrs. A.— will have a very familiar and life-like tone. And the fact that such a nuisance is not only tolerated by public opinion but cannot be abated by official means, is suggestive of another fact, viz. that similar nuisances abound in the villages of that State without exciting any alarm. Indeed, it may safely be assumed that a tithe has not been told of the damage created by this particular nuisance. No arithmetic can compute the ravages of the poisonous exhalations of this cess-pool upon the seventy souls that are subjected to them day and night, the year through. In addition to the long and wearisome periods of severe sickness mentioned, are the insidious wasting of the energies of the laboring-man, the enfeebled bodily con-

dition of the wife and mother, and the stunted, dwarfish growth of the children.

But Vermont is not alone in her neglect of the methods of protecting and promoting the most important interest of her people—the public health. Only twenty States have undertaken the great work of organizing a central board and providing a proper system of sanitary administration for their cities, towns, and villages. It is greatly to be hoped that during the approaching winter, when many legislatures will be in session in States that have no boards of health, suitable efforts will be made by the medical profession to secure the passage of the requisite laws for this purpose. With the present impetus that has been given to sanitary reform another decade should not pass without securing in every State a complete system of health administration.

Unfortunately for the petitioner the National Board of Health is so restricted in its operations that it cannot reach her case. The law requires that it "shall co-operate with and, so far as it lawfully may, aid State and municipal boards of health in the execution and enforcement of the rules and regulations of such boards, to prevent the introduction of contagious and infectious diseases into the United States from foreign countries and into one State from another." As Vermont has no State board of health and as the abatement of this nuisance would not effect any purpose contemplated in the law, the National Board of Health can only advise the executive of that State, as it is required to do when "such advice may tend to the preservation and improvement of the public health," that a competent State board of health, with adequate power, is essential to the preservation and promotion of the public health.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

LOCAL OUTBREAKS OF THE FEVER.

ALGERS (opposite New Orleans).—One case of yellow fever, September 22, the child of a woman who nursed one of the first cases.

NAPOLEONVILLE, LA.—Dr. J. A. Blanchard, health officer, reports (September 24) 5 cases, but no deaths, at the Saint Thomas settlement, one mile distant, since the visit of Dr. Davidson. About twenty persons there are still liable to have the fever. Of those exposed by visiting the first cases, none are yet attacked.

OAK GROVE, MARSHALL COUNTY, MISS.—At this place, thirty miles from Memphis, Dr. Winn reports one death September 22, and one September 25, and two other cases in the same family. See report.

BAYOU BOUTE, LA.—Dr. Parham, having been directed to inquire into supposed cases of yellow fever at this station, reports as follows, September 26. The cases occurred in a family composed of Mr. Frion, his wife, and four children, living about 200 yards from the railroad station. No 1. Mrs. Frion was taken sick September 15, and died on the 21. Said to have had severe pains in the head and back, and continued fever; history of case incomplete, and diagnosis doubtful. No. 2. A daughter, aged 13; taken September 21 with chill and fever. It is said there has been no remission of fever. She had black vomit on the 25th and 26th; is jaundiced; the eyes are injected; the pulse

102°; temperature 103°. No. 3. A daughter, aged 7; was taken September 25, at 7 a. m.; no chill; fever increasing; eyes injected; pulse 140°; temperature 106° 2 at 3 p. m., September 26; no suppression of urine. No. 4. A daughter, aged 3 years; taken at the same time with the last case, and with similar symptoms; general appearance that of yellow fever.

LACONIA, ARK.—Dr. A. A. Horner, September 25, finds no yellow fever at this place, as was reported in the Little Rock Gazette.

BENJES, TENN. (eight miles from Memphis).—Dr. Winn finds, September 29, that the reported cases of yellow fever are malarial.

TIGERVILLE, LA.—Dr. J. P. Davidson, under date of September 30, gives a detailed account of the case of Cleville Dupris, who died, September 28, of supposed yellow fever. After a review of the history and symptoms, Dr. Davidson concludes that the case was one of pernicious malarial fever.

MORGAN CITY AND BERWICK, LA.—The following reports have been made from these places:

Morgan City.—September 24, cases, 3; no deaths. September 26, cases, 3; no deaths. September 27, cases, 3; no deaths. September 28, 1 case; no deaths. September 30, cases, 3; no deaths. October 2, 1 case; deaths, 2. October 3, 1 case; no deaths. Total cases, 15; deaths, 2.

Berwick.—September 24, cases, 2; no deaths. September 26, 1 case; no deaths. September 27, no cases; no deaths. September 28, 1 case; deaths, 3. September 30, cases, 2; no deaths. October 2, cases, 1; no deaths. October 3, 1 case; no deaths. Total cases, 11; deaths, 3.

During the time included in the above report New Orleans remained free from fever, excepting two deaths during the week ending September 27.

ABSTRACTS FROM CONSULAR REPORTS.

VENICE.—United States Consul John Harris sends the following abstract of mortality statistics for the second quarter 1879: Population, 140,437. Total deaths, 865; rate per 1,000, 24.6. Causes of death: consumption, 106; cerebral diseases, 97; lung diseases, acute, 125; diphtheria, 7; gastritis and enteritis, 62; marasmus, 73; typhoid fever, 17. In the hospitals there were 2,589 patients remaining from first quarter: 3,412 admitted; total, 6,001. Of these, 278 died; 3,060 recovered, and 266 remained under treatment. The mean barometer for the quarter was 29.84; maximum, 30.37, in June; minimum, 29.66, in April. The highest temperature was 81.1, in June; lowest, 48.1, in April. Greatest humidity was 5.03, in May; least, 6.15, in June; mean for the quarter, 76.58. Rain-fall, 8.12 inches for the quarter, of which 3.82 inches fell in May.

GUADALUPE, WEST INDIES.—The following translation of an ordinance of quarantine, from United States Consul Charles Bartlett, is forwarded by the Department of State, October 1:

"The governor of Guadalupe and dependencies, *ad interim*, considering the official declarations which confirm the appearance of the yellow fever in the states of Central America, in the Mississippi Valley and New York, &c., in the United States, and in the island of Cuba; considering the deliberations of the central sanitary commission, under date of August 13 and 21, 1879; considering the articles 42 (sections 1, 2) and 102 (section 23) of the organic ordinance of February 9, 1877, and August 22, 1883; considering the articles 11, 12, 13, 14, and 16, of the decision of January 11, 1854, and 1 of the decision of December 6, 1866, decides:

"ART. 1. The productions of Central America (New Grenada and Venezuela) from Colon, Aspinwall, to the westward as far as the island of Trinidad, inclusive, to the eastward, as well as those from the United States of America, Cuba, and Jamaica, shall undergo on their arrival in this colony a quarantine of 23 days, passage included.

"ART. 2. The ordonnateur and the director of the interior are charged each, wherein concerned, to carry out the present decision, which will be communicated and recorded wherever necessary, and published in the *Official Gazette and Bulletin* of the colony.

"Basseterre, August 25, 1879."

MOSCOW, RUSSIA.—United States Consul Robert P. Wilson, in forwarding reports for the months of May and June, reports that only monthly reports are furnished by the city authorities, and they are frequently two months behind time.

NASHVILLE, TENN.—Dr. J. D. Plunket sends a telegram, October 2, as follows:

Chancellor Livingston, before whom was tried yesterday the validity of Galloway's election as special judge, decides that such election was irregular and, therefore, his fiat and injunction are void.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

INSPECTION OF STEAMBOATS ON THE MISSISSIPPI RIVER.—Inspector Dr. John H. Rauch, under date of September 1, makes the following remarks on the case of the steamboat *Hard Cash*, and the results of inspection on the river:

This boat is the chief reliance of the region between Walnut Bend and Hale's Point for subsistence supplies, and, according to telegrams between Dr. Breyssacher, president of the Arkansas State board of health, and Health Commissioner Francis, of Saint Louis, and which were recently published, the latter officer had given permission to Captain Postal, of the *Hard Cash*, to land on the Arkansas shore within ten miles north and south of Hopefield, and within twenty miles north and south of Memphis on the Tennessee shore. Dr. Breyssacher telegraphed that she had landed on her last trip at Hopefield, which place, he states in his telegram, is in direct communication with Memphis. This the captain denied to Dr. Reilly, but stated that he had put off freight on the "tow head" at Allen Island, a few miles above Memphis, and had held no communication with any person or thing from the infected city. As the statements of the president of the board of health and the captain were in direct conflict and as there had before been attempts at suppression of facts, I commend Dr. Reilly's course in the premises. At the same time I have no doubt that it would be perfectly safe, so far as danger of conveying infection is concerned, to allow any boat to land supplies at Hopefield, or on the Tennessee shore near Memphis, provided no communication was held with persons or things from that city. In this connection it will interest you to know that letters from the Arkansas State board have been received at the station during the week requesting the inspector to make proper examination of two steamboats ordered to report to him for that purpose. Permission has been granted these boats by the Arkansas State board of health to ply upon the St. Francis and White Rivers in the United States mail service, providing they first obtain clean bills of health from this station. This is another illustration of the confidence which is coming to be placed in the inspection system, and, largely, I think it may be fairly claimed, through the work done here. It is no small thing to have broken down the embargo which Arkansas has placed upon commercial intercourse, relying almost entirely upon exclusion for protection rather than upon sanitation and intelligent and discriminating surveillance.

DR. F. W. REILLY writes as follows, under date of September 14, from his inspection station on the Mississippi River:

With the exception of the case of the steamer *Hard Cash* there has occurred nothing worthy of special mention, the inspections having already become a matter of routine in the business of the boats and causing no more delay to them nor annoyance to the officers than an ordinary way-landing. In the case of the *Hard Cash* I have again deemed it proper to refuse a bill of health or to authorize her landing at Illinois or Missouri towns before passing Saint Louis quarantine; not so much, if at all, from fear of actual danger to such towns as from a sense of the necessity of enforcing candid and trustworthy statements from officers of boats concerning certain matters about which the inspector must necessarily rely upon them for information. On Saturday, September 13, at 2.45 p. m. I inspected the steamer *Paris C. Brown*, from New Orleans, September 6, for Cincinnati, with clean bill of health from former port. She had, also, a bill of health from the Fort Adams inspection station, dated September 7 and signed, as to sanitary and other history of boat and trip, by the master of the boat, the certificate of personal examination of vessel being signed "L. L. McGeece, M. D., quarantine officer, per H." I endorsed the fact and the usual use of this station upon the original New Orleans bill. I found upon this boat a deck passenger (female with infant) taken on at Chicot City, Ark., and bound for Smithland, Ky. The woman was seriously ill with pleuritis, complicated with malarial fever, and the infant was suffering with quotidian intermittent. She had been upon the deck of the boat three days and nights without medical attention or other care than that afforded by deck-hands and "coasters." She was unable and unfit to proceed further, and, after due deliberation, I decided to remove her to the hospital boat for treatment. My reasons for this action were twofold: First, to prevent the more than probable alarm and sensation which would be created by landing such an object from a New Orleans boat upon the Cairo levee in the midst of a gossiping and excitable community. A frailer groundwork of fact has already served for the erection of very substantial quarantine barriers under my own observation. At the present juncture, when confidence is measurably restored and commercial intercourse is unimpeded, it seemed especially desirable that nothing should occur which might renew apprehension and alarm. The second reason was dictated by common humanity. Her reception and treatment entailed no expense upon the establishment; and, for the rest, it is a matter of a little inconvenience and additional labor upon the part of the employees' sacrifices and services which are cheerfully rendered. In the immediate vicinity of this station

and from East Cairo to Arlington—the region directly under my own observation—there is a marked increase of sickness as compared with that of a fortnight or three weeks since. This increase is principally of malarial fevers and diseases of the respiratory organs, both of which classes of cases show a strong tendency to typhoid complications.

Under date of September 21, Inspector Dr. F. W. Reilly makes the following additional report:

Complaints are made by captains that, notwithstanding the numerous inspections and multiplied bills of health with which they are furnished, they are, nevertheless, refused permission to land at many points on the river. This is beginning to produce a feeling of impatience and disposition to evade inspection when possible. Captain Bixby, of the *City of Alton*, complains specifically that, although his boat was inspected by Dr. Schuppert at New Orleans and furnished with a clean bill of health, which was supplemented by an inspection and another clean bill from Dr. McGeehee, at Fort Adams, Miss., and this in turn by another inspection and clean bill from Dr. Daniel, at the national quarantine near Vicksburg, he was still not allowed to land at Vicksburg nor anywhere in Washington County, Mississippi.

The captain of the *E. O. Steward* also complains that Washington County, Mississippi, and other points refuse freight and passengers from below, and do not recognize bills of health. The steamer *Gold Dust* also was provided with three bills of health, the original New Orleans bill having been ignored at the inspection stations.

On the 15th instant I received telegraphic advices of the outbreak of yellow fever at Concordia, and instructions to allow no passengers or freight from that point or near there to be landed at Cairo. Since then no permits have been issued allowing passengers or freight from any point between Fowler's (20 miles north) and Floryville (21 miles south of Concordia) to land at Illinois towns. At 5.45 p. m., September 1, I learned that the towboat *John A. Wood* arrived at Cairo at 6 a. m. of the 1st. On investigation it was found that the relief watch was called at 5 a. m. of the 1st, but instead of waiting until the relief took charge of the deck the early morning watch turned in. The *Wood* probably passed in the interim. Being a low-pressure boat and the morning foggy, she might easily have done so without being noticed.

The train inspections have been regularly made, and since the suspension of the Cairo interdict I have furnished the conductors of trains with a formal certificate of inspection to be presented to the sanitary officer at East Cairo. On the 17th there was only one passenger from New Orleans. He was without a certificate, and said that no inspector boarded the train at Hammond's, as usual, from which I was led to infer that train inspections at that point had been abolished. Passengers on subsequent trains, however, presented the customary certificates.

As at the date of my last report, I have again to note an increase of sickness in this vicinity, but nothing of an alarming character. The woman taken from the *Paris C. Brown* is sufficiently convalescent to be able to travel, and will be sent on by the *Golden Crown*, of the same line, now due.

BUNTXN STATION, TENN.—Inspector Dr. W. B. Winn reports as follows, September 24, on the additional cases occurring in this town:

September 3 Mary Moore, colored, died at the house of her stepfather, Dave Rogers, an account of which and all preceding cases I had the honor to forward the Board September 10. Since the death of this girl there have occurred in the house in which she died the following cases: Cora Moore, *et al.*, taken September 20; Dave Rogers, *et al.*, taken September 21; Dollie Rogers, *et al.*, taken September 22; Delia Moore, *et al.*, taken September 22; Nancy Hicks, *et al.*, taken September 23. After the death of Mary Moore, everything in the room was destroyed by fire and the apartment thoroughly disinfected by sulphurous acid gas, and it was hoped that the spread of the disease was arrested. The family, however, continued to visit the Davenport's daily, and after the illness of Byrd Davenport, colored, an account of whose case can also be found in my report of September 10, 1879. Appreciating the necessity for *absolute isolation*, the avenue leading to the house was closed by fencing, and pickets stationed around it (the house). There is a thick settlement of negroes a short distance east of the infected house, and every effort will be made to prevent the disease from getting among them. There remain three members of the Rogers family who have not had yellow fever. Disinfectants have been freely supplied, and we will see that all benefit possible is derived from them.

Inspector Dr. W. B. Winn writes as follows from Memphis, under date of September 29:

I have to report the following case of yellow fever on the farm of J. S. McCullum, five miles north of Bartlett, eighteen miles from Memphis:

Jack Allen, full-blooded African, aged 34, was attacked September 21. Patient has entered Memphis every day for several weeks, haul-

ing lumber. His last visit to the city was September 20. He will probably recover. He is sick in an out-house, 150 yards from any dwelling. A mulatto, Sandy McCullum, slept with him the night he was taken sick, but is still well. There are seven houses, containing from three to five persons each, three of them inhabited by whites, within a radius of 200 yards of the patient. Several of these neighbors, both white and black, visited Allen during his present illness before the diagnosis was made. A full supply of disinfectants was carried out, and all necessary instructions for their use and for isolation given. Dr. Corcoran, a prominent physician of Bartlett, will see that every possible precaution is taken to prevent the spread of the disease.

A Mr. Vaunderstrandt died yesterday, of yellow fever, in a thickly-settled neighborhood, seven miles from Memphis, near and on the north side of the Louisville and Nashville Railroad. He was sick three days, and had been visiting the city in a wagon almost daily. His wife gave birth to a son while her husband was sick, and in the same room. She refused to be removed, stating positively that she had had yellow fever in 1873. She has with her two small children besides the new-born, who have not had yellow fever. None of the neighbors have visited the Vaunderstrandt house since yellow fever entered it. Disinfection and isolation are as thoroughly as possible instituted.

JACKSON, MISS.—Inspector Dr. Wirt Johnston writes as follows, September 22:

Dr. Banks hopes to get a boat for Concordia to-day. He has received instructions to isolate cases, fumigate households, and disinfect clothing; if possible, to establish a camp and remove the population thereto after disinfection; to surround the town with a sanitary cordon, establishing an inspecting station on every road. He has been informed that after persons remain in camp for ten days without developing the disease, and undergoing a second disinfection, it would perhaps be safe to provide them with a certificate and permit them to go elsewhere. Acclimated persons, those who have had the disease, after being thoroughly disinfected, out of reach of infection, are to be permitted to leave without baggage. No unacclimated person is to pass the inspecting stations without having been under observation for not less than ten days and being disinfected; then to go without baggage. No unacclimated person is to enter the town. Steamboats are not to be permitted to land at the town, but can do so either above or below clear out of reach of infection. Every precaution is to be taken to prevent infected articles or persons from going aboard of boats, and should such articles or persons leave on a boat, information is to be given to the health authorities along the river. Attention has also been called to the disinfection of mails.

OAK GROVE, MISS.—Inspector Dr. W. B. Winn makes the following report of cases under date of September 27:

I today visited the cases reported to me late last evening in the family of Mrs. Bailey, on the Mount Pleasant road, near Oak Grove, Miss., six miles southwest of Collierville, Tenn., and thirty miles southeast of Memphis. There have occurred to date the following cases in this family, *viz.*: Miss Rilla Manning, aged 20; Charles Campbell, aged 22; Willie Manning, aged 18; John W. Bailey, aged 24. September 17 Miss Rilla Manning was taken with the disease (yellow fever) and died on the fifth day with black vomit, involuntary discharges from the bowels, and suppression. September 20 Charles Campbell and Willie Manning were attacked, the latter dying with every symptom of yellow fever on the 25th instant. Mr. Campbell is now convalescing. September 25 Mr. John W. Bailey was attacked with the disease and is now very low. All of the above were undoubted cases of yellow fever, but, unfortunately, were not recognized as such by the physician in attendance until after the death of Willie Manning on the 25th instant, making in all nine days after the first case, during which time no steps towards isolation were taken, the patients being seen by friends and relatives in the neighborhood.

At my visit to-day I found the entire country in alarm at the appearance of these cases, and the most rigid quarantine against all points, but more particularly against this family and Memphis, established. Although late, isolation is now very thorough, no communication whatever being allowed. There are still three white and two colored members of the family liable to the disease. A liberal supply of disinfectants was furnished the physician in charge by me, with full directions for their use. The bedding, &c., on which the two patients died was burned and the rooms thoroughly fumigated.

The outbreak of the disease in this secluded place is plainly traceable to communication with the city (Memphis) by dirt road and *dry goods* brought out for the purpose of preparing a *wedding trousseau* for Miss Manning, the first attacked. The neighborhood is a thickly-settled one, and it is deeply to be regretted that the cases were not recognized earlier.

BEERE, ARK.—Dr. J. M. Gist, September 20, states that a board of health for that place was provided for by ordinance in 1878.

Monthly report of mortality in cities of the United States for August, 1879.

Places.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrhoeal diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Stim. stroke.	Typhus and typhoid fevers.	Whooping-cough.
Burlington, Vt.	16,500	14	26	18.9	.....	4	5	2	.....	.....	1	2	.....	.....	.....	.....	.....	.....
Chattanooga, Tenn.	12,000	23	31	31.0	.....	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill.	537,634	623	1,002	22.3	11	54	242	21	2	19	20	13	8	.....	35	.....	.....	.....
Cincinnati, Ohio.	280,000	234	412	18.9	2	50	14	19	2	.....	232	.....	.....	.....	1	1	.....	.....
Columbia, S. C.	11,300	9	21	22.3	.....	1	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
District of Columbia	170,000	194	361	25.5	2	50	66	1	1	2	21	9	.....	1	5	.....	16	.....
Dubuque, Iowa	30,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elmira, N. Y.	20,436	.....	29	17.0	.....	3	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flint, Mich.	10,000	7	12	14.4	.....	1	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson Co., N. J.	199,000	.....	338	20.4	.....	41	66	11	2	2	19	7	.....	2	7	.....	4	.....
Knoxville, Tenn.	15,000	3	12	9.6	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Knockville, Tenn.	16,400	5	25	16.8	.....	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lynchburg, Va.	21,000	23	41	25.1	1	4	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mobile, Ala.	40,000	28	55	25.5	.....	11	1	1	.....	4	2	2	.....	.....	.....	.....	.....	.....
Nashville, Tenn.	27,083	32	58	25.7	.....	5	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Haven, Conn.	60,000	40	75	17.4	.....	16	5	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Norfolk, Va.	24,000	42	73	36.2	.....	5	13	1	.....	1	2	8	.....	.....	.....	.....	.....	.....
Plattsburgh, N. Y.	9,000	14	18	24.0	.....	3	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Porsmouth, Ohio	15,000	.....	9	7.2	.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Providence, R. I.	101,540	75	173	20.3	.....	25	24	7	.....	2	.....	.....	.....	1	10	.....	.....	.....
Quincy, Ill.	35,000	11	39	13.4	.....	9	5	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Richmond, Ind.	14,000	12	14	12.0	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saint Paul, Minn.	54,180	26	57	13.4	.....	.....	14	.....	.....	1	4	.....	.....	.....	.....	.....	.....	.....
San Diego, Cal.	1,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Selma, Ala.	7,950	11	22	37.2	.....	3	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stockton, Cal.	13,000	2	12	11.1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Ohio	60,000	49	89	17.8	1	.....	11	13	.....	3	6	1	.....	3	6	.....	.....	.....
Yonkers, N. Y.	19,000	14	26	16.4	.....	3	5	1	.....	1	2	1	.....	.....	.....	.....	.....	.....
Totals	1, -17, 995	1, 473	3, 125	26.6	17	307	606	148	8	38	128	63	8	18	91	1	26	30

* The relative white and colored populations for several cities are given in the note to the weekly reports. Their annual mortality per 1,000 is as follows: Chattanooga, white, 21.0; colored, 51.0. District of Columbia, white, 19.1; colored 34.4. Nashville, white, 15.7; colored, 41.2. Norfolk, white, 36.0; colored, 50.9. Knoxville has 10,550 white, 6,150 colored; deaths, 11 white, 13 colored. Rate per 1,000, white, 12.9; colored, 21.4. Selma, Ala., has 3,062 white, 3,385 colored; deaths, 9 white, 13 colored. Rate per 1,000, white, 35.0; colored, 40.1.

Report of mortality in cities of the United States for the week ending September 27, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Bacterial diseases.	Diphtheria and croup.	Frisyphoid.	Lung diseases, acute.	Malarial fevers.	Measles.	Pneumonal diseases.	Scarlet fever.	Small-pox.	Typhoid and typhoid fevers.	Whooping cough.	Yellow fever.
N. H.	Concord	14,000	3	11.2				1											
Mass.	Boston	375,000	52	121	16.8		1	21	2	1	11				2		2		4
	Cambridge	50,000	5	13	13.6		2	2	1										
	New Bedford	25,000	3	8	15.4		2	2											
	Newburyport	13,000	2	5	20.2														
	Marblehead	7,500	1	2	13.9		1	1			1								
	Nantucket	3,000		1	17.3														
	Edgartown	1,700		1	30.7														
	Plymouth	6,341	2	5	41.2		1		3										
	Lowell	52,000	10	21	21.0		2	5							1				
	Lawrence	40,000	4	7	9.1				2										
	Brookton	12,000	1	4	17.1		1	1	2										
	Somerville	24,000	2	1	10.4			2	1										
	Milford	10,000	1	2	10.4			1											
	Bridge-water	3,000		2	26.7													1	
R. I.	Providence	101,500	11	32	16.1		5	1	1		1				6				
Conn.	New Haven	60,000	2	11	9.6		1	1							1				
	Norwich	17,000	1	7	21.5														
Vt.	Burlington	16,500	1	2	6.3														
N. Y.	New York	1,097,451	206	451	21.4		57	64	6	2	19	11	3	6	15	1	1	1	
	Brooklyn	564,148	71	199	18.1		36	1	21		13	4			2		3		
	Yonkers	19,000	1	4	9.8		1	1			1	4							
	Poughkeepsie	20,000	1	3	7.8														
	Newburgh	17,500		1	3.0		1												
	Hudson	8,741																	
	Utica	35,000		7	11.9		2												
	Binghamton	18,000		2	5.8														
	Rochester	90,000	9	22	12.7		3	2			1				1				
N. J.	Hudson County	199,000	37	52	18.8			2	2									1	
	Newark	132,000	13	41	16.2			3	1		5	2							
Penn.	Philadelphia	901,450	91	254	11.6		13	11	6		4				2			4	
	Erie	5	1	11	19.1		1	2			1								
	Reading	10,199	5	15	19.1							1							
	Pittsburg	115,000	26	51	18.3		6	4	7				1		6			1	

Report of mortality in cities of the United States for the week ending September 27, 1879—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and comp.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Del.	Wilmington	44,013	6	11	13.0	1	25	2	1		5						1		
Md.	Baltimore	400,000	56	12	18.7	1	1	3	10			1			13		7	7	
Va.	Norfolk	24,000	6	12	26.1														
	Richmond	80,000	16	24	15.6		3	7											
N. C.	New Bern	7,500	4	6	41.7								2						
S. C.	Charleston	57,000	17	33	30.1		2	5	2									1	1
Ga.	Savannah	32,636	10	17	27.1		2		1		1								
	Brunswick	3,000																	
	Augusta	26,274	3	13	35.2		1	4									1		
	Atlanta*	39,000	9	14	18.7		1	1											
	Rome	5,000	1	3	31.7														
Fla.	Pensacola	8,500	3	8	49.1		1	3				1							
	Jacksonville	10,000	2	4	20.0	1						1							
Ala.	Mobile	40,000	7	23	30.0			2											
Miss.	Yicksburg	15,000	2	7	24.3		2												
	Columbus	5,300		2	19.7														
La.	New Orleans*	210,000	27	6	21.3		9	5	2			6		1			1		2
	Shreveport	7,000	3	4	28.6		1	1											
Tex.	Austin	15,000	3	4	13.4		1												
	Houston	30,000	4	7	12.2		1					3	1						
Ark.	Little Rock	22,000	2	9	21.3		1				2	4							
Tenn.	Nashville*	27,052	5	3	37.6		1				2								
	Franklin	1,000		1	29.0														
	Murfreesboro	4,000	2	2	26.1		1				1								
	Chattanooga	13,000	4	6	26.1		1												
Ky.	Louisville	175,000	16	53	29.9		4	3	2										
W. Va.	Wheeling	35,000	6	11	16.4		1	1	1		1								
Ohio.	Cincinnati	220,000	34	91	16.9	1	13	5	7		2				5		4		
	Painesville	5,000																	
	Cleveland	175,000	30	50	14.9		4	3	2										2
	Dayton	39,000	3	8	11.1		2		1								1		
	Gallipolis	5,500																	
Mich.	Port Huron	8,200		1	6.4									1					
Ind.	Evansville	37,000	5	9	12.2		2	4											
	Indianapolis	97,000	8	26	14.0		5	5	2	1	2				1				
	Franklin	4,000	1	2	26.1		1	1											
	Richmond	14,000		2	7.3														
Ill.	Chicago	345,024	70	140	14.1		9	8	16		4	1				10		4	1
	Peoria	40,000	3	8	10.4		1					2			1				
	Quincy	35,000	4	12	17.9		1										1		
	Moline	7,000	1	1	29.8		1				1								
	Amoy	14,520	4	2	7.2														
Wis.	Milwaukee	124,000	26	47	19.7		2	4	2			3							
	Racine	15,000	3	1	13.9			1	1										
Minn.	Saint Paul	54,000	1	5	3.1														
	Minneapolis	52,000	5	13	13.0		2	1				2							
Iowa.	Burlington	30,000	1	2	3.5														
	Dubuque	30,000	4	7	7.0				1										
	Kokuk	15,000	1	2	6.9														
Mo.	Saint Louis	208,000	47	106	17.1		11	8	6	1	3	4	1		3		4	1	
Kans.	Lawrence	2,475	1	3	18.4			1											
Nebr.	Omaha	30,000	1	3	5.2		1		1										
Cal.	San Francisco	300,000	27	58	13.6		13	2	2		6								
Totals		7,944,246	1,067	2,510	16.6	7	317	245	125	5	141	55	9	9	76		64	32	2

* Norfolk has 14,057 white, 9,943 colored; deaths 1 white, 8 colored. Rate per 1,000, white, 14.8; colored, 42.1. Charleston has 25,000 white, 32,000 colored; deaths, 7 white, 26 colored. Rate per 1,000, white, 14.6; colored, 42.3. Savannah has 17,403 whites, 15,163 colored; deaths, 8 white, 9 colored. Rate per 1,000, white, 23.8; colored, 31.9. Augusta has 15,246 white, 11,025 colored; deaths, 5 white, 8 colored. Rate per 1,000, white, 17.1; colored, 35.9. Atlanta has 23,750 white, 15,220 colored; deaths, 5 white, 7 colored. Rate per 1,000, white, 15.4; colored, 24.0. New Orleans has 155,000 white, 55,000 colored; deaths, 49 white, 37 colored. Rate per 1,000, white, 16.5; colored, 35.1. Nashville has 17,500 white, 9,500 colored; deaths, 7 white, 10 colored. Rate per 1,000, white, 20.8; colored, 60.4. Chattanooga has 8,000 white, 1,000 colored; deaths, 3 white, 3 colored. Rate per 1,000, white, 19.6; colored, 39.1.

THE following reports for the week ending September 27, are from places in which burial permits are not known to be required:

Allegheny, Pa., population 75,000; deaths 24; under 5 years 13; consumption 1, diarrheal 3, diphtheria 7, erysipelas 1, typhoid fever 1, whooping-cough 1. Bath, Me., 10,000; one death. Battle Creek, Mich., 7,500; deaths 2; under 5 years 1, from cerebro-spinal fever. Benton County, Miss., 11,000; one death. Calais, Me., 7,000; one death. Carrollton, Miss., 600; no deaths. Cedar Keys, Fla., 1,200; no deaths. Columbus, Ga., 10,000; deaths 6; under 5 years 2; consumption 1, diarrheal 1, pneumonia 1, whooping-cough 1. Crystal Springs, Miss., 1,000; no deaths. Dallas, Tex., 20,000; deaths 3; under 5 years 2. Davenport, Iowa, 25,000; deaths 14; under 5 years 2; diphtheria 1, malarial fever 1. Decatur, Miss., 1,000; no deaths. Flint, Mich., 10,000; consumption 1. Greenwood, Miss., 100; no deaths. Gun City, Mo., 100; no deaths. Helena, Mont., 3,200; no deaths. Hernandez, Miss., 1,200; no deaths. Indianapolis, Ind., 100; no deaths. Inks, Miss., 1,000; no deaths. Jackson, Miss., 5,000; diarrheal 1. Lansing, Mich., 10,000; diphtheria 1. Louisiana, Mo., 5,000; consumption 1. Madison, Ind., 12,000; deaths 7; under 5 years 3; consumption 1. Mansfield, Ohio, 11,000; consumption 1. Monroe, Mich., 5,163; 3

deaths, under 5 years. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; one death. Niles, Mich., 4,630; one death. Okla. Miss., 3,000; pneumonia 1. Oxford, Miss., 2,000; no deaths. Pass Christian, Miss., 4,000; no deaths. Pontore, Miss., 600; no deaths. Portsmouth, Va., 11,000; deaths 5; under 5 years 2; consumption 1. Quarantine Hospital, New York; no yellow fever; no deaths. Raymond, Miss., 700; no deaths. Ripley, Miss., 1,000; whooping-cough 1. Sacramento, Cal., 25,000; deaths 7; under 5 years 4; consumption 1, diarrheal 2, malarial fever 1, whooping-cough 1. Salt Lake City, 25,000; deaths 10; under 5 years 3; diarrheal 3, diphtheria 2. Shelbyville, Tenn., 2,000; lung disease, acute 1. Sing Sing, N. Y., 5,000; deaths 10; under 5 years 3; consumption 4, diarrheal 1, pneumonia 1, malarial fever 1. Starkville, Miss., 1,163; no deaths. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 1,000; no deaths. Verona, Miss., 1,000; no deaths. Waterbury, Conn., 16,000; deaths 5; under 5 years 1; consumption 1. Waynesborough, Miss., 500; no deaths. Wesson, Miss., 2,000; no deaths. Winona, Minn., 11,786; deaths 3; under 5 years 2; diarrheal 1, pneumonia 1. Youngstown, Ohio, 17,000; deaths 2; under 5 years 1; consumption 1, diarrheal 1.

NATIONAL BOARD OF HEALTH ROOMS are at 1410 G street, northwest.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Total deaths.	Annual rate per 1,000.	Weekly mean.		
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.			Barometer.	Thermometer.	
1879.																				
Vancouver's Island	Victoria	3,500	Sept. 20	..	..	..	..	..	..	..	..	..	..	..	..	2	29.8	30.10	64.0
Canada	Montreal	135,000	Sept. 20	..	..	..	..	10	1	..	..	..	..	9	..	65	25.1	..	..
Do.	Kingston	16,000	Sept. 27	..	..	..	..	..	..	..	..	..	..	..	..	4	13.0	30.18	52.7
Do.	St. John's	5,000	Sept. 27	..	..	..	..	..	..	..	..	..	..	..	..	3	31.3	..	54.0
Prince Edward's Island	Charlottetown	12,000	Sept. 27	..	..	..	..	..	..	..	..	..	..	..	..	4	17.1	30.17	52.7
Nova Scotia	Pictou	4,000	Sept. 27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Brunswick	St. John's	..	Sept. 20	..	..	1	1	13	..	..	..	3	..	..	..	8	..	29.89	54.2
Do.	..	..	Sept. 27	..	..	..	..	10	1	17	1	..	..	..	..	14	..	30.04	49.1
Bermuda Islands	..	14,807	Sept. 23	..	..	..	..	..	..	..	..	..	..	..	..	2	7.0	30.17	81.3
Do.	..	14,807	Sept. 30	..	..	..	..	..	..	..	..	1	..	..	..	1	3.5	30.11	79.3
Bahama Islands	Nassau	12,000	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	82.5
Turk's and Caicos Islands	..	27,000	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	3	5.8	29.90	86.0
Do.	..	27,000	Sept. 13	..	..	..	..	..	..	..	..	..	..	..	..	2	3.8	29.95	86.0
Cuba	Havana	195,437	Sept. 20	..	..	24	3	..	..	..	..	..	..	..	..	164	43.8	29.91	82.0
Do.	..	195,437	Sept. 26	..	..	21	3	..	..	..	..	..	..	..	..	150	10.0	..	..
Do.	Cienfuegos	20,218	Sept. 25	..	..	1	..	..	..	..	..	..	..	..	..	18	46.4	29.98	86.0
Mexico	Matamoros	16,000	Sept. 13	..	..	..	..	..	..	..	..	..	..	..	..	5	16.3	..	..
Do.	..	16,000	Sept. 20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Do.	Vera Cruz	15,850	Sept. 14	..	..	..	..	..	..	..	..	..	..	..	..	21	69.1	29.92	82.9
Do.	..	15,850	Sept. 21	..	..	..	..	..	..	..	..	..	..	..	..	13	42.8	29.91	84.0
Do.	Tampico	3,450	Sept. 6	..	..	3	..	1	..	..	..	..	..	..	..	37	..	..	..
Ireland	Queenstown	10,000	Sept. 20	..	..	..	..	..	..	1	1	..	..	..	..	5	26.1	..	..
England	London	3,620,868	Sept. 6	..	..	..	..	..	..	..	1	1	..	..	..	127	1,393	20.1	56.8
Do.	..	3,620,868	Sept. 13	..	..	..	..	..	..	..	2	2	..	..	..	126	1,262	18.2	57.6
Do.	Liverpool	538,338	Sept. 20	..	..	..	..	..	..	2	1	6	1	76	33	273	26.4	29.39	56.8
Scotland	Glasgow	379,156	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	162	14.6	..	..
Do.	..	379,156	Sept. 13	..	..	..	..	..	..	..	..	..	..	..	..	13	19.8	17.9	56.6
France	Rouen	104,902	Sept. 20	..	..	..	..	..	..	..	..	..	..	..	..	53	26.3	30.12	66.9
Do.	Paris	1,988,808	Sept. 11	..	..	..	..	16	..	34	..	..	..	..	..	11	968	25.1	..
Do.	Toulon	77,000	Aug. 24	..	..	..	..	..	..	1	1	..	..	..	..	25	16.9	29.92	73.2
Do.	..	77,000	Sept. 14	..	..	..	..	..	..	..	..	..	..	..	..	25	16.9	29.88	71.6
Do.	Lyon	342,815	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	3	211	32.1	..
Do.	..	342,815	Sept. 13	..	..	..	..	..	..	..	..	..	..	..	..	1	152	23.1	..
Do.	Nice	49,717	Sept. 13	..	..	3	1	2	1	..	..	..	..	..	..	37	38.8	30.00	70.9
Germany	Leipzig	145,719	Sept. 13	..	..	..	..	..	..	..	..	..	..	..	..	5	29.3	29.51	59.6
Do.	Frankfurt	120,000	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	30	24.4	..	..
Do.	Bremen	165,000	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	56	21.5	..	..
Holland	Rotterdam	117,600	Sept. 13	..	..	..	..	..	..	2	1	..	..	..	..	72	25.5	29.81	64.8
Do.	..	117,600	Sept. 20	..	..	..	..	..	..	..	..	..	..	..	..	61	21.0	29.78	60.0
Denmark	Copenhagen	225,000	Sept. 9	..	..	1	14	1	..	..	..	..	..	..	..	125	29.0	29.92	58.8
Italy	Leghorn	97,410	Sept. 20	..	..	..	..	..	..	..	1	..	..	..	..	1	25.7	30.01	69.8
Austria	Trieste	127,853	Sept. 20	2	193	42.0	29.72	58.7
Turkey	Constantinople	..	Sept. 17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Russian Poland	Warsaw	336,700	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	179	27.7	29.72	58.7
Sweden	Stockholm	169,421	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	67	20.6	29.81	55.2
Norway	Christiania	113,000	Sept. 6	..	..	..	..	..	..	..	..	..	..	..	..	36	16.6	29.83	53.9

* Nothing reported.

MISCELLANEOUS.

PRESCOTT, ARK.—Dr. R. E. Arnold reports, September 18, that the local board of health has adopted the rules and regulations of the National Board.

LITTLE ROCK, ARK.—Dr. A. L. Breysscher sends copies of ordinances establishing boards of health for Forest City, Pine Bluffs, and Helena, Ark.

OSYKA, MISS.—Dr. W. C. Warren reports, from the State quarantine station at this place, under date of September 22, as follows:

Since last report, of September 13, no disease has been observed on any of the trains from New Orleans, and none have been detained.

CHARLESTON, S. C.—Dr. R. Leiby's reports of quarantine at this port, for the weeks ending September 20 and 27, show that no contagious or infectious disease existed on any vessel arriving there. A steamship from Havana, Cardenas, and Cienfuegos brought *foul* bills of health from each of those ports, and was detained for observation, according to law.

MEMPHIS.—September 27, 6 cases, 2 white; 5 deaths, 1 white. September 28, 13 cases, 3 white; 4 deaths, all white. September 29, 8 cases, 4 white; 1 death, white. October 2, 11 cases, 1 white; 3 deaths, 2 white. October 4, 1 case, all white; 3 deaths, 2 white. October 5, 6 cases, 5 white; 3 deaths, 2 white.

THE populations of several cities, as given in the mortality tables of the BULLETIN, differ from those given in the mortality reports. In these cases the population given in the table is that officially stated to the National Board of Health by the city authorities, and will be used until corrected by a new census.

VIKSBURG, MISS.—Dr. E. E. Daniel reports as follows, from the quarantine station near Vicksburg, for the week ending September 26:

Number of steamboats from New Orleans, 5; number of barges, 7; certificate to passengers, 7; certificates indorsed, 13. A number of passengers had no certificates. The general sanitary condition of boats is excellent, and no objection is made by officers or passengers to the inspection. It has not yet been found necessary to detain any one.

HELENA, ARK.—Dr. A. L. Breysacher, president of the state board of health, says under date of September 28:

The medical inspector at Helena reports great difficulty in keeping negroes out of the State at that point, coming from Memphis and vicinity, in skills and other small craft, on their way to the cotton fields of Arkansas. Danger is also apprehended from the smaller towns of Tennessee and Mississippi, where yellow fever has lately appeared.

POLK'S LANDING, MISS.—Dr. C. A. Rice reports, from the State quarantine station near Commerce, Tunica, County, Mississippi, as follows, for the week ending September 19:

Number of steamboats inspected, 11; persons on board, 221; flat-boats inspected, 3; persons on board, 9. No contagious or infectious disease discovered. Steamboats generally land for inspection, and neglect to do so is ascribed to ignorance of the fact that Polk's Landing is a State quarantine station. The absence of any unusual "malarial" condition in the country generally, is regarded by Dr. Rice as a strong opposing fact to the malarial theory of yellow fever.

PROCLAMATION BY THE GOVERNOR OF LOUISIANA.—Under date of September 18 Governor Francis T. Nicholls issues the following proclamation relating to quarantine:

Whereas, upon the advice of the board of health of the State of Louisiana, it has been recommended to the executive of this State that he be requested to so modify the proclamations of quarantine issued on the 10th day of April, 1879, on the 14th day of May, 1879, and on the 9th day of June, 1879, that from and after the FIRST DAY OF OCTOBER, 1879, all vessels arriving from ports not known to be infected and not having touched at an infected port, reaching the quarantine station with clean bills of health, having had no sickness on board during the voyage, and in a healthy condition, shall be allowed to proceed to the city of New Orleans without detention: Therefore,

I, Francis T. Nicholls, governor of the State of Louisiana, by virtue of the power vested in me by law, do hereby issue this, my proclamation, and do hereby modify the proclamations heretofore issued by me on the 10th day of April, 1879, the 14th day of May, 1879, and the 9th day of June, 1879, with respect to quarantine, in conformity with the advice of the board of health, as above specified.

And I do hereby direct the quarantine officers to comply with this proclamation in carrying out strictly the recommendations of the board of health, as above specified. In testimony whereof I have hereunto affixed my signature and caused the seal of the State of Louisiana to be affixed, at the city of New Orleans, this 15th day of September, A. D. 1879.

FRANCIS T. NICHOLLS.

By the governor:

OSCAR ARROYO,
Assistant Secretary of State.

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REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

CHOLERA IN JAPAN.—Dr. D. B. Simmons, of Yokohama, writes as follows in regard to the present epidemic in Japan, under date of September 3, 1879:

The epidemic of cholera has assumed considerable proportions, having reached 100,000 cases, with a mortality of about 50 per cent. The disease was imported from China during the summer of 1877, and in that year the number of cases was between 14,000 and 15,000, with an average mortality of about 50 per cent. Though nearly dying out in the winter, it reappeared the next year, but the cases were comparatively few. It lingered principally in Osaka. This year it began quite early in the season, and Hiogo has been the principal center from which the disease has spread over the whole empire. Within the last two months it has rapidly increased until it has reached the figures above given. Strenuous efforts have been made by the government to stop its progress, in every direction. A coast quarantine was established between here and Kobe and Osaka; but, unfortunately, the disease was brought here by two steamers just before this measure was put in force. There is positive evidence that if these two steamers had not arrived the disease would have at least been delayed more than a month. Hospitals are established in every part of the empire, and sanitary measures in accordance with modern scientific ideas are everywhere being carried out. Great trouble arises from the want of a proper supply of cheap disinfectants. Carbolic acid ranges from \$2 to \$2.50 per pound. I have strongly advised the use of sulphurous acid, which was largely employed at Yokohama in 1877 under my instructions, and I am sure with good results.

The type of the disease is rather peculiar, so that some foreign physicians denied for some time that it was cholera. Vomiting and rice-water evacuations were not seen in more than half the cases, if in so many; the stools were often yellow, or green and slimy. I have seen a large number of cases, but most of them have passed into the stage of collapse. The diarrhoea in the fatal cases is not often severe, but suppression of urine comes on early, followed by death in from eight to twenty-four hours. I have used iodoform and thio-carbin in many cases, and have brought on the secretion of urine frequently when the cases were not too far advanced. The reaction, when produced by these drugs, seemed less likely to be followed by secondary fever than when stimulants were used.

BLACK HAWK, MISS.—Dr. Benjamin F. Kittrell gives the following account, September 29:

Black Hawk is a small village in Carroll County, about sixteen miles east of Silon, on the Yazoo River, and eighteen miles west of Vaiden, on the New Orleans, Chicago, and Saint Louis Railroad. The town, though containing only about 150 inhabitants, is incorporated, and has organized a board of health, whose chief duty consists in quarantining against yellow fever when necessary. The site being very hilly, and the natural drainage excellent, no necessity exists for any special sanitary work to prevent disease. Indeed, the town has such an extended reputation for healthfulness, and for the intelligence and morality of its society, that a very flourishing school has been established here.

The geological formation of this county consists entirely of the *miocene* or newer tertiary, excepting the alluvium along the water-courses, and the "bluff" formation. The upper strata of this formation consist chiefly of an orange-colored sandstone overlaid by loam of different colors, principally yellow and red. The yellow contains a large quantity of lime, is fertile, and well adapted to the production of cotton. The face of the country is hilly and undulating, except along the streams, which are always bordered by level bottoms of rich alluvium. The streams are sluggish and subject to overflow, and owing to the absorbent nature of the soil, the summer ones become dry in summer. The "bottoms" are the finest arable lands of this region, but are a fruitful source of malaria, and the diseases here generally originate from or are modified by that poison. Of late years, however, there has been a marked decrease in malarial diseases throughout this State, owing, no doubt, to the fact that fewer forest trees are felled and less new soil broken up than formerly. But when a dry, hot summer succeeds a very wet spring, malarial fevers still abound, especially near the water-courses. These fevers are usually of mild type, and are rarely fatal when well treated. I believe the death rate of Mississippi, if accurately ascertained, would prove as small as that of any other State in the Union.

The present year has been exceptionally healthy: the spring was not wet, and the summer has been remarkably cool. Both seasons have presented a marked contrast to the conditions of last year, which, in my opinion, essentially favored the introduction and propagation of yellow fever. We have had no epidemic of any kind this year, except a mild form of mumps, prevailing during the past winter and spring.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *fift cents* per copy. Notice of at least one week should be given when a large number is required.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, OCTOBER 18, 1879.

[No. 16.]

SANITARY SURVEYS OF CITIES.

Portland, Me., has long been regarded as a model New England city. Favorably situated for health and commercial activity, it has been distinguished for the vigor and enterprise of its people. And yet, like all sea and river port towns, Portland has conditions, both natural and artificial, dangerous to life and detrimental to health. From a recent report of a sanitary commission, appointed to investigate nuisances, it appears that—

For some years past a great deal of complaint has been made by the inhabitants of the northern slope of the city concerning certain vile odors which emanated, it was generally alleged, from Back Cove and the adjoining mill-pond. This summer the murmurings have been louder than ever before, and the sufferers have given expression to their discontent and indignation in the columns of the newspapers and in anonymous communications to the chief magistrate of the city, as well as in their familiar and daily converse with each other. Indeed, the trouble was so aggravated that it became the common subject of town talk; and many thoughtful people began to fear that the reputation for unhealthfulness which Portland was getting from its own citizens would have so restraining an effect upon would-be visitors that the commercial interests of the place would suffer more than they ever did from the detractions of its rivals and enemies. It was not asserted that the death-rate had notably increased in the last year; on the contrary, the official figures of the superintendent of burials show a decided decrease. There has been no violent or alarming epidemic of any kind for years. But the opinion somehow became prevalent that the health of the people in the districts most annoyed by the stench was, on the whole, markedly impaired, and not a few families of wealth and influence announced their determination to move away rather than be longer exposed to the danger associated with continued residence. The affair was assuming a very serious aspect. Whether the opinion was correct or not, it was certain that a body of citizens of pronounced respectability as regards numbers and standing considered themselves the victims of an intolerable nuisance, for the existence and continuance of which they believed the municipal authorities to be responsible.

With characteristic good sense her authorities have taken the right step to discover and abate these nuisances. They appointed a commission, consisting of two competent medical men, Dr. FREDERIC H. GERRISH and Dr. CHARLES A. RING, to make a sanitary survey of the city and report the results. Its first step was thus taken:

In order to obtain all the reliable evidence attainable relating to the subject, we advertised a series of public hearings, which were urgently requested all citizens to attend who had any odorous nuisance to complain of. At these meetings a large number of gentlemen and a few ladies were present, individually stated their grievances, and offered explanations of the difficulties and suggestions for their abatement.

The investigation which followed was exhaustive, and the report is replete with interesting exposures of the sources of ill health to the people, and suggestions as to the practicable remedies to be applied. A local paper well remarks of the commissioners and their report:

They have evidently devoted themselves assiduously to their task,

and the report gives evidence of long study of the subjects considered. Our citizens now have before them a clear statement of the cause of the nuisances of which they have so long complained and sound recommendations for their abatement. It now only remains to carry them out. As the doctors say, the matter is too vital to be trifled with. Let us have no false economy when our health and lives are involved.

It may safely be assumed that every city in the United States which has grown to its present dimensions without the advice and direction of skilled sanitary authority has both natural and artificial sources of air and water pollution which are dangerous to life and detrimental to health. This assumption is based on the fact that the sites of American cities are always selected with reference to some kind of commercial advantage. Facilities for trade find their chief centers along sea and river fronts, on low-lying grounds. The first building is at the water's edge, and from that point the city extends in a straggling manner over the plain to the adjacent hills. In time the commercial district comprises the low grounds, while the residences occupy the elevations. The gradual extension of such a city is accidental and without any reference to the future health of the people. Drainage and sewerage, the plans of streets and squares, and other conditions essential to the public health, are all unthought of, and of course unprovided. At no distant day these evils are revealed by a traveling epidemic, which plants its germs in the sodden soil and fermenting ground water, and devastates the homes of the inhabitants. Or, happily, as in Portland, the foul emanations from the neglected districts may excite public alarm and lead to the timely use of the necessary remedial measures. But there are vast numbers of cities in this country whose Back Coves and adjoining Mill Ponds, reeking with accumulated filth, have not yet attracted public and much less official attention. Fortunate would it prove to such cities if at an early day their authorities would follow the example of Portland and institute a proper sanitary survey.

SANITARY INSPECTION OF RAILWAYS (QUARANTINE).

The problem of establishing a system of sanitary inspection of railway travel and traffic, an inland quarantine, is about to be taken up by the railroad corporations. This movement is very timely and very gratifying. The experience of the past summer has proved the value, or rather the absolute necessity, of such inspections to prevent the spread of yellow fever and still maintain intercourse between infected and healthy localities. The rules of the National Board are designed to effect these two great and most important objects, when intelligently and faithfully carried out, they have proved to be entirely fea-

sible. If, now, in the light of the last summer's experience, the railroad corporations should, as is proposed in the following circular, in a general conference, adopt such rules and regulations as to them seem practicable and to the National Board adequate, this great problem of inland quarantine would receive immediate solution. It cannot be doubted that Congress would give its sanction to the plan by suitable legislation.

The National Board of Health has appointed a committee to meet the railroad representatives, and aid in the preparation of a system of rules and regulations governing inspections. It is to be hoped that the proprietors of steamboats interested in the subject will take similar action to meet in conference. If the conferences should be held at Nashville at the same time, the entire scheme of inland sanitary inspection could be considered and doubtless adopted.

The circular is issued by JAMES C. CLARK, general manager of the Chicago, Saint Louis, New Orleans Railroad Company, under date of New Orleans, October 7, 1879.

Thirty-one responses have been made by railroad officials to the circular issued on the 6th of August, requesting a meeting of the railroads, with a view of petitioning the National Congress to make provisions for the appointment of a National Board of Health, to whom shall be delegated the power of adopting and putting in force quarantine rules and regulations affecting inter-State commerce, passengers and merchandise transported on railroads to and from any point where contagious or infectious disease may exist.

The object of this movement is to secure uniform rules and regulations that will give the greatest protection by affording reliable means to arrest the spread of infectious or contagious disease, while at the same time, providing for the movements of freights and passengers with the least inconvenience compatible with safety to the public health.

In the communications received from the several railroads, the places designated for holding such convention or conference, are proportionately as follows: Saint Louis, 2; Nashville, 14; Atlanta, 4; Louisville, 2; Cincinnati, 1; Chicago, 1; Washington, 1. Therefore, in obedience to what seems to be the expressed wish of the majority, I respectfully name Nashville, Tenn., as the place for holding such meeting, to be convened on Wednesday, the 19th day of November, 1879.

All railway managers who take an interest in this matter are respectfully invited to attend; and, with a view to accomplish the purposes sought, they are requested to prepare, in the mean time, for submission to the conference, such suggestions as they may think proper to make.

DECLARATORY RESOLUTION.

At a meeting of the National Board of Health, held October 15, 1879, the following resolution was adopted:

Resolved, That by the expression "adoption by such State or local board of any rules and regulations that have been recommended in such case by this board," in paragraph 1 of Circular 7, and similar previous communications, is meant not merely a formal adoption of such rules and regulations, but a continual enforcement thereof in practice, and that any prolonged or purposed non-enforcement of substantial parts of such rules and regulations will be considered as equivalent to non-adoption.

PENSACOLA, FLA.—Mr. George H. O'Neil, president of the board of health, reports, under date of October 8, that the quarantine against New Orleans is removed. Household goods from that city that have been in use are excluded till further notice.

LOCAL OUTBREAKS OF THE FEVER.

NEW ORLEANS.—October 9, one case in the infected district.

BERWICK.—October 8, no new cases and no deaths. October 9, one new case, no deaths.

MORGAN CITY.—No new cases are reported at this place for October 10, nor at Berwick. Two deaths reported at Centreville and two at Bayou Beut; at the latter place there have been 35 cases and 13 deaths to date.

BAYOU BŒUF.—October 8, three new cases and two deaths. Thirty-one cases now under treatment, and there have been 13 deaths to date. October 9, six cases under treatment; 14 convalescent; 33 cases and 13 deaths in all to date.

BUNTYN, (near Memphis).—Dr. Winn reports, October 6, that two cases of yellow fever occurred there October 2, one October 4, one October 5, and two October 6. Origin of cases obscure and interesting; will be investigated and reported.

MORGAN CITY, LA.—MR. A. M. LEVY reports only three cases under treatment October 7; strict attention given to cleaning and disinfecting, and the fever rapidly abating. October 8, two new cases; no deaths. October 9, no new cases and no deaths.

OAK GROVE, MARSHALL COUNTY, MISSISSIPPI.—Dr. C. Daniel reports, under date of October 2, that the cases of Mr. Bailey and Mr. Campbell, convalescent when seen by him, were probably yellow fever, but he does not anticipate any spread of the disease in that locality.

PASS CHRISTIAN, MISS.—Inspector Dr. George N. Smith, under date of October 7, states that he had visited a boy supposed to have yellow fever at Handsborough, on Bayou Bernard, which is navigable to that point. The place was infected last year, and the present case is ascribed to the poison remaining from that epidemic. Several cases then occurred in the house where the boy is now sick with the fever, and no disinfection had been employed.

BAYOU BŒUF STATION, LA.—Inspector J. P. Davidson makes the following report of the first case at this place:

The first person attacked was Mr. Chase, who lives immediately on the bank of the bayou, just above the railroad track. His family consisted of himself, wife, and three children. He visited Morgan City about the 1th of September, ignorant, as he informed me, of the existence of yellow fever there, remained a day in the transaction of business, and returned to Beut Station. On the fourth day after his return he was seized with a chill at night and had quite a high fever, which lasted twenty-six or thirty hours, passing off in profuse perspiration and leaving him feeling very prostrate. During the paroxysm of fever he suffered severe pain in the head, back, and limbs. He had been engaged for some time in getting out railroad ties, and felt sure that the attack was one of malarial fever, occasional paroxysms of which he had undergone through the summer. Several days after his convalescence, his son, about three and a half years old, fell sick with fever and died on the third day, comatose, but without having had any vomiting or hemorrhage. Mr. Chase said that the child was sickly and delicate, and that he felt sure his was also a case of "swamp fever." October 1 his daughter Helena, 6 years old, was taken sick at night with a chill, the ensuing fever being quite high. I visited her at 2 o'clock p.m., October 3, when she presented the following symptoms: Very restless and uneasy, face flushed, eyes brilliant and much injected; severe frontal pain, which the father ascribed to a slight blow on the forehead received in play a day or two before she fell sick; tongue covered with a thick white coating, pointed, and red tip and edges; much thirst, and tenderness of the epigastrium; pulse, 160; temperature, 105°. Failed to obtain any specimen of urinary secretion. There can be no doubt that these were cases of yellow fever, the infection having been derived from Morgan City through the incautions exposure of Mr. Chase in his visit to that place.

BUNTYN, TENN.—Inspector W. B. Winn makes the following additional report of cases occurring at this place October 7:

Since my last report upon the cases of yellow fever at Bunty, the following cases have occurred there in the following order, viz, John Duty (colored), September 14; Mrs. Tom Cubbins, September 24; Mr. Renchard, aged 55, October 2; Dudley Varr (colored), October 2; Miss Mollie Kennedy, 16 years, October 4; Claude Cubbins, 17 years, October 5; Miss Minnie Foley, 15 years, October 6; Jim Humphreys (colored), October 6.

September 14, John Duty (colored) was taken with yellow fever at the house of Mrs. Cubbins, about one mile from Bunty Station. He

had been going to the city (Memphis) daily, marketing. His attack terminated favorably.

September 24, Mrs. Cubbins was attacked with the fever. She is now very low and will probably die from hemorrhages from the nose and gums. Mrs. Cubbins visited the family of her sister, Mrs. Moore, Sunday, September 21, remaining there all day. The Moore family is the one referred to in my first report.

October 2, Dndley Warr (colored), section-hand in the employ of the Memphis and Charleston Railroad, was attacked with the disease and is now sick in the "section-house," about thirty yards from the depot. The only fact bearing upon the origin of his case is that he has been using a mattress and bedding which were used and soiled by a yellow-fever patient who died October 13, 1878. The black-vomit status of last year are still plainly visible upon the mattress.

Mr. Renchard was taken sick October 2, at a house in which he was refugeeing, about half a mile this side of Buntyn, on the railroad. His case was a very malignant one, and ended fatally at 1 a. m. to-day. There were nine cases and five deaths in that same house last year. Dr. Watkins, State inspector at Buntyn, who has charge of all these cases, treated a 3-year old child of Mr. W. D. Cannon in this house in June last. The child was taken sick on the 24th and died on the 27th of June. She had high continued fever during the attack, and died in uræmic convulsions. After death, black vomit oozed freely from the mouth.

July 2, 1879, Dr. Watkins reported the case to the Shelby County Medical Society. I was present at the meeting of the society when the report was made. Drs. Willet and Thornton, two of our most learned and experienced physicians, reported at the same meeting five other similar cases, all in children, none of which ended fatally. In all of them black vomit occurred. Out of about a dozen members present over three-fourths maintained that these were not cases of yellow fever. I was one of the minority who maintained that it was. Six days later the Mulbrandon case was pronounced yellow fever. After the death of the Cannon child the family left the house for East Tennessee, and the Renchard family moved in about July 15. No other facts, other than the above, bearing upon the origin of Mr. Renchard's attack could possibly be discovered by me, as he had taken every precaution against the disease.

October 4, Mollie Kennedy, aged 16, was attacked with yellow fever. She will probably die. This morning (October 6) Minnie Foley, aged 15, was taken violently with the disease. They have been living all summer about 150 yards from the depot, in a house in which there was yellow fever last year. Dr. Watkins states that in the bedroom of these two girls he treated last year one of the most malignant cases of yellow fever he ever saw. The plastered walls and ceiling of this room were much cracked and broken last year, and have remained so without any attempts at repairs or cleaning ever since. These two girls and the other inmates of the house are said to have taken every possible precaution to avoid contracting the disease, and no connection can be traced between these and any other cases.

To-day (October 6) Jim Humphreys, colored, section-hand, was taken sick in the house with John Warr, mentioned above, from whom he probably contracted the disease. In the house where Mr. Renchard died this morning, there are seven persons, one three days old, who have not had yellow fever.

ABSTRACTS FROM CONSULAR REPORTS.

CAPE HAYTIER, HAYTI.—United States Consul S. Gontier reports, September 22:

The British bark *Shidhar*, Peene, master, arrived on the 12th from Fort Liberty with yellow fever on board. The captain and four seamen died within six days. No contagious disease at Cape Haytien, but bill of health is not granted to schooner *Emma Crosby*, clearing for Chester, Pa.

MONTREY, MEXICO.—United States Consul John Weber reports, September 11, as follows in regard to his consular district:

No fears are entertained at the appearance or spread of yellow fever. Montrey is situated at the foot of the Sierra Madre Mountains, about 250 miles from the coast, and over 1,500 feet above the level of the sea. It is one of the healthiest places in that region. No official record of diseases and deaths is kept there.

TANGIER, MOROCCO.—United States Consul Felix A. Mathews, under date of August 5, writes as follows to the Department of State in regard to the difficulty of obtaining vital statistics in that city:

In a country like Morocco, devoid of statistics and of newspapers, it will be almost impossible to obtain any accurate information as to the causes of the daily mortality among this fanatic and superstitious people, who are guided by fatalism and consider it an offense

to God to inquire into the causes of death. In fact, 99 per cent. of the Moors, when ill, refuse medical assistance from Christian doctors, depending on their charms and prayers for recovery, in the full faith that every event is written by Providence at the beginning and is not to be changed by any human endeavors. I am, therefore, powerless to induce the Moors to furnish returns of deaths and their causes. The latter they ignore and the former it is against their creed to report. Still, I shall make every effort to comply with your instructions as far as possible.

CONSTANTINOPLE.—United States Consul-General, Hon. Harris H. B. Mattheosian, transmits the following communication from Dr. H. B. Mattheosian, United States delegate to the International Sanitary Commission at Constantinople. The letter is dated September 17:

We cannot state exactly the population of Constantinople and its environs, nor of any other Turkish city, as no official estimates are made, or if made they are not published.

In regard to deaths, there is a regulation that application shall be made, with a certificate of death, to the sanitary authorities for a permit of burial. From these permits we can obtain the number of deaths from all causes, with the age, sex, nationality, religion, and disease of the deceased; the military hospitals are exempt from this regulation. But as many of the certificates are made by non-professional persons, they are unreliable so far as the diseases are concerned. It follows that while we can tell very nearly the number of deaths, excluding the military, we cannot specify the diseases, nor give the ratio of deaths to the population with any degree of accuracy.

As a general practitioner of medicine and surgery, and as a member of the Medical Society of Constantinople, I have the opportunity of knowing the prevailing diseases, and of forming some idea of their causation, extent, and probable termination, but only in a general way and not with numerical accuracy.

The same is true of certain contagious and infectious diseases; we cannot tell, even during an epidemic, how many cases and deaths have occurred. When the existence of an epidemic disease is made known to the sanitary commission, an inspector is usually delegated to ascertain the nature of the disease and to recommend to the proper authorities such measures of prevention or relief as he may devise. But the people generally do not look upon small-pox with the same degree of alarm and anxiety that is felt in the United States with regard to that disease. The lower classes seem to think it a duty to have small-pox, and are not only careless as to exposure to contagion, but rarely apply for medical advice when attacked, believing that the disease must run its course. Sporadic cases of small-pox often occur which are not reported, and though I have not heard of a single case for several months, I am by no means sure of its non-existence.

In case of an epidemic, as soon as the inspector has made his report, vaccine lymph is furnished to physicians who are commissioned to vaccinate at least every child in the vicinity not protected by vaccination or by a previous attack of small-pox.

In regard to epidemics of more virulent diseases, such as cholera, yellow fever, plague, and typhus fever, not only in Constantinople but in any part of the Ottoman empire, our information is more prompt and generally more correct.

I will give hereafter a general sketch of the constitution and functions of the sanitary commission of the Ottoman empire and the international sanitary council, of which I have the honor to be a member as a delegate of the United States.

GUAYAQUIL, ECUADOR.—United States Consul Alexander McLean writes as follows, under date of September 10:

The circular of the Department of State reached me on the 1st instant, but I have not yet been able to forward a report, as there are no regular sanitary statistics kept here, and it requires much time to collect the data. But, having interested the hospital authorities in the matter, I hope soon to obtain regular information.

There are many cases of small-pox in the city, and the authorities have telegraphed from Panama to New York, Paris, and Liverpool for a fresh supply of vaccine virus. As soon as this is received, compulsory vaccination of all school children will be entered, though the disease has not yet assumed an epidemic character. This port is generally considered the most unhealthy on the west coast, dysentery and malarial fevers being the prevailing diseases; at present the health of the city is good for a tropical place.

The town is built on low ground, in a fresh water swamp, and the river foot has been raised by filling above the level of high tide, but the ground slopes back to the swamps.

The demands of business and the high rents have driven most of the population from the river side, and the houses of the poorer classes are greatly crowded in unhealthy localities. Some of the streets have sewers, but most of them have open gutters in the mid-

dle of the narrow street, which in the rainy season become vile-smelling mud-holes. There is no public water supply, and wells are not used as the water from them is brackish. There are no cesspools nor water-closets, and refuse of all kinds is collected in barrels, which are removed twice a week by the authorities and emptied into the river. The rise and fall of the tide leaves a broad margin of mud, which mixes with the filth from the city so as to constitute a probable source of disease. The cooking of the natives is execrable, and no attention is given to general sanitary requirements, but fortunately the resulting diseases are not usually infections; there is no cholera, yellow fever, nor plague here. I have one sailor in hospital who seems likely to die from malarial fever, but there is not much sickness here at present.

The city is now crowded with refugees from Peru, whence the Chilians have been exiled, and I should estimate the present number of inhabitants at 25,000; it does not appear that any regular census has ever been taken, and the estimates made by the natives vary from 18,000 to 40,000. The town is very closely built for about two miles along the river, and extends back eleven streets in the widest part, with scattering settlements on the borders of the swamp.

No quarantine regulations are in force at present, and free *pratique* is given to all vessels; there are very few now clearing for ports of the United States. No meteorological record is kept here, and I must rely on the captains of vessels for observations, which I would willingly make and record myself if supplied with the proper instruments.

The principal exports to the United States are vegetable ivory, cochineal bark, caoutchouc, and cocoa; no disease is brought from the interior with the trade in these articles.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

RETURN OF PEOPLE TO MEMPHIS.—Inspector E. M. Wight writes as follows:

The tendency of people, absent from Memphis, to return to some place near there still continues. If it were not for the enforcement of the rule (one) which requires all who go into Memphis to have the "permit" of the superintendent of quarantine, there would be hundreds returning where one goes now. The local quarantines on all the lines of railroad in this State are gradually coming into accord with the general system of inspection. Public opinion is in almost entire harmony with the health authorities, and gives free and hearty indorsement to the quarantine as it has been and is now conducted.

CHATTANOOGA, TENN.—Inspector Dr. E. M. Wight, under date of September 29, makes the following remarks concerning the system of transfers and train inspections:

From the present outlook it is my opinion that the second transfer, Humboldt, on the Louisville, Nashville and Great Southern road, might be dispensed with at the beginning of October, unless the weather should again become warm or other causes conspire to increase the fever around Memphis. There is a growing feeling of confidence, both among sanitarians and the general public, in the quarantine of inspection as it has been and is now being carried out on the lines of travel leading from the neighborhood of the infected district. This is particularly the case along the lines of railroad where the operations of the quarantine are witnessed by the people. The whole inspection on the part of every officer in the employ of the State board is certainly now well and carefully made, and the transfers are conducted in strict accordance with the rules.

INSPECTING STATION AT ISLAND NO. 1, MISSISSIPPI RIVER.—Inspector Dr. J. H. Ranch transmits the following report of Dr. J. W. Reilly on inspections at station below Cairo, under date of September 28:

During the week ended September 27 there have been inspected at this station twenty-four craft of all kinds, comprising eight passenger packets, two towboats, and fourteen barges. The towboats and barges and seven of the passenger-boats were from below; the remaining boat, the *Phonix*, from Pittsburgh, Pa., destined for United States mail service on the Arkansas River.

The *Phonix* is a new boat, making her first trip, and presented herself for inspection in pursuance of instructions from the Arkansas State board of health. Two other boats, one intended to ply upon the St. Francis and one upon the White Rivers, were also ordered to report here for inspection by the same authority. Of these, one, the *Jessie Hurry*, was snagged and sunk in the Mississippi above Cairo, and has been taken back to Saint Louis for repairs. The other, the *Batesville*, passed down yesterday afternoon, September 27, at 4.15, disregarding signal to stop for inspection. Dr. A. L. Breyssacher, president of the Arkansas State board of health, has been duly notified of the fact.

Only two of the nine boats from below presented bills of health,

namely, the *Golden Crown*, for Cincinnati, and the *Commonwealth*, for Saint Louis, both from New Orleans on September 13 and 21, respectively. The towboat *John Dippold* and five barges cleared from New Orleans on the same day as the *Golden Crown*, not only without a bill from port of departure, but did not stop for inspection at any intermediate station. Towboat *Joseph B. Williams* and barges, from Bayou Sara, on the 12th instant, also came up without inspection at any point until boarded in the river by the yawl from this station.

Except the *City of Greenville*, which presented a certificate of inspection signed by Dr. Horner at Helena, Ark., none of the boats clearing from Vicksburg (vide in number) had any evidence of having "complied with the rules and regulations of the National Board," as required by the board of health of Cairo as a condition precedent to entry at that port for all vessels from below Tiptonville. On the other hand, the *Commonwealth*, one of the two boats having original bills of health from New Orleans, was also provided with original bills from each of the intermediate stations. (Only the bill from the port of departure is filed at this station, with such additions and changes noted as are found upon inspection.)

This want of uniformity in practice, as in the case of the *Dippold* and *Golden Crown*, coupled with the refusal at many points to recognize the validity of any bills is, as already stated in report of September 21, causing some impatient criticism from certain masters of boats who think they are discriminated against. To allay this and, so far as may be, to remove any colorable ground of complaint, original bills of health continue, under your instructions, to be issued to all boats passing satisfactory inspections; and permits to land at Cairo and other Illinois towns are furnished to passengers from any healthy point. The interdiction against Concordia, Miss., and vicinity is, however, still maintained, as also, of course, that against Memphis and vicinity.

Since August 1, up to date, there have been inspected at this station a total of 139 vessels of all descriptions, embracing 67 steamers (passenger, freight, and towboats) and 72 barges, lighters, and flats; an aggregate tonnage of 115,871.99 tons. These vessels carried 4,271 passengers, officers, and crew, all of whom have been personally inspected here; and the healthy condition of the valley is well attested by the fact that in all this number there were found only 7 cases of illness, namely, 5 cases of intermittent fever, and 1 each of "bilious remittent" and pleurisy. Medical assistance was furnished to 3 of these, and surgical relief to one case of luxation and one of (probable) fracture of outer table of skull. In only one instance was it deemed advisable to remove a passenger from a boat, and this not on account of any suspicion of contagious disease, but to prevent alarm at Cairo, where the patient would have been otherwise landed in an apparently moribund condition. (This case has been already detailed in report of September 14, and was discharged convalescent on the 22d.)

In pursuance of your general policy of conciliating local sentiment with a view to maintaining quarantine and inspection, medical assistance has been freely afforded whenever sought for by the people in the vicinity of the station. The nearest available physician lives at Blandville, six or eight miles distant, and responds to calls from this section with reluctance; so that there is no interference with local practitioners.

The prosecution of train inspections is daily growing less satisfactory. As the season advances health certificates grow rarer, and toward the close of the week not over 20 per cent. of the passengers were provided with them. This has made the effective inspection of trains much more onerous, since, in order to be assured that no passengers were allowed to pass from the infected area around Memphis without proper precautions, it became necessary to make personal imposition into many cases. In this delicate duty the assistance of the railway officials has been uniformly prompt and valuable.

Dr. P. B. McCutcheon, recently appointed as medical officer of the steamer *Harlan*, of the Morgan line from New Orleans to Brazos Santiago and Indianola, Tex., gives an account of the thorough sanitary measures adopted on the line, and observes that the result is most favorable in removing obstructions to commercial intercourse from local quarantine restrictions.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

Report of mortality in cities of the United States for the week ending October 4, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 4 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung disease, acute.	Malarial fevers.	Measles.	Pneumonia.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Me.	Bangor (2 weeks)	20,000	2	12	31.3		4				1								
N. H.	Concord	14,000	2	3	14.3														
Mass.	Boston	375,000	27	167	23.2	1	24	30	11		10	1		1	5		5	4	
	Cambridge	50,000	18	18	36.0		4	4	1										
	New Bedford	27,000	7	21	46.3		2	3	2		3				1				
	Newburyport	13,000	1	1	7.7														
	Marblehead	7,500	1	3	30.9		1		1										
	Fall River	48,500	9	18	19.4		2								2		1		
	Lowell	52,000	6	16	16.0		5	3	1								1		
	Lawrence	40,000	2	9	11.7		3	2	1		1						1		
	Brookton	12,000	1	2	8.3														
	Somerville	23,000	2	7	15.9														
	Milford	10,000	3	3	15.7		1												
R. I.	Providence	101,500	18	33	13.0		7		4	1	1				7		1		
Vt.	Burlington	16,500	1	3	9.5														
N. Y.	New York	1,097,563	223	438	23.6	1	97	58	9	1	50	16	4	4	6		7	12	
	Brooklyn	564,448	105	238	22.0		40	20	15		25	3		2	2		2	4	
	Poughkeepsie	29,000	1	4	10.4		1												
	Newburgh	17,568	1	5	14.8														
	Hudson	8,781																	
	Biogonaton	18,000	2	7	39.3		1	2											
N. J.	Hudson County	139,000	36	60	23.3		1	8	5	1	1	3	1		8		2		
	Newark	132,000	22	52	20.6		1	7	5	1	1	3	1		1				
Penn.	Philadelphia	901,380	71	232	13.4	1	43	14			1	11	1		1	5	5	3	
	Erie	30,000	4	8	13.9		1	2										1	
	Reading	49,110	4	13	16.9		3	3										1	
	Pittsburg	145,000	24	55	19.8		7	2	13		4								
Del.	Wilmington	44,000	3	16	18.9		5											1	
Md.	Baltimore	400,000	57	129	16.8		12	11	10	1	3	4			9		5		
District of Columbia		170,000	32	73	22.4	1	7	11			6	5			1		3	2	
Va.	Norfolk	24,000	10	19	41.3														
	Richmond	80,000	6	33	21.5		9	2							1				
S. C.	Charleston	57,000	18	38	34.8		4	3	4		1	2							
Ga.	Augusta	26,574	2	10	19.4						1							1	
	Atlanta	39,000	12	18	17.4						1								
Fla.	Pensacola	8,500	1	2	12.3		1												
	Jacksonville	10,000	1	2	10.4						1								
Ala.	Mobile	40,000	4	12	15.6		3		1										
Miss.	Vicksburg	15,000	1	4	13.6		1												
	Columbus	5,300																	
La.	New Orleans	210,000	33	85	21.1		13	6	2		6	6							
	Shreveport	7,000	3	5	37.3														
Tex.	Austin	15,000	1	3	10.1		1												
Ark.	Little Rock	22,000	5	10	23.7		1				2	3						1	
Teon.	Nashville	27,054	4	12	23.1		1	2			1	1						1	
	Chattanooga	12,000	3	4	17.4														
Ky.	Louisville	125,000	18	46	13.3		9	2	1		2				3		4	2	
Ohio.	Cincinnati	250,000	41	93	17.3	1	10	8	4		4								
	Cleveland	175,000	20	57	17.0		3	3	3		5				2		2	2	
	Gallipolis	5,500	1	1	9.5														
Mich.	Port Huron	45,000	1	2	11.1		1												
Ind.	Evansville	37,500	4	13	18.1		3				1				1				
	Indianapolis	97,000	7	29	15.6	1	2	5			2	4			1		4		
	Richmond	14,000		2	7.5														
Ill.	Chicago	537,624	67	174	16.9	2	11	7	17		5	3	2	1			14		
	Peoria	40,000	6	13	16.9										1				
	Quincy	35,000	3	8	11.9		1				2							1	
	Aurora	14,550	3	3	10.7				1		2							1	
Wia.	Milwaukee	42,000	12	46	19.4		2	6	2		1								
Minn.	Minneapolis	52,000	10	23	21.4		1	1	1		1								
	Saint Paul	51,000	4	9	9.2													5	2
Iowa.	Dubuque	30,000	3	4	7.0														
	Burlington	30,000	1	5	8.7														
	Keokuk	15,000	1	2	10.1		1												
Mo.	St. Louis	500,000	41	112	11.7	1	17	10	2		1	2			1		7	4	
Nebr.	Omaha	39,000	6	13	22.6	1	1	1	1								2		
Utah	Salt Lake City	25,000	3	11	29.2	1	1	3	3										
Cal.	San Francisco	300,000	31	24	12.9		7	8	1		3		1	2					
Totals			7,764,356	1,106	2,731	18.3	11	102	250	122	5	164	68	7	13	50	88	36	

* District of Columbia has 114,000 white, 56,000 colored; deaths 35 white, 33 colored. Rate per 1,000 white, 16.0; colored, 34.7. Norfolk has 110,750 white, 9,203 colored; deaths 12 white, 10 colored. Rate per 1,000 white, 14.0; colored, 31.6. Richmond has 46,000 white, 31,000 colored; deaths 19 white, 14 colored. Rate per 1,000 white, 21.5; colored, 21.5. Charleston has 155,000 white, 32,000 colored; deaths 16 white, 23 colored. Rate per 1,000 white, 13.4; colored, 22.9. Atlanta has 217,500 white, 15,220 colored; deaths 7 white, 6 colored. Rate per 1,000 white, 15.4; colored, 20.6. New Orleans has 155,000 white, 50,000 colored; deaths 51 white, 21 colored. Rate per 1,000 white, 14.2; colored, 29.1. Nashville has 17,555 white, 9,500 colored; deaths 6 white, 6 colored. Rate per 1,000 white, 17.5; colored, 32.9. Chattanooga has 8,000 white, 1,000 colored; deaths 2 white, 2 colored. Rate per 1,000 white, 13.0; colored, 26.0.

THE following reports, for the week ending October 1, are from cities in which burial permits are required, and having not more than 5,000 population:

Bridgeport, Mass., population 3,900; one death; suicide. Edgartown, Mass., 1,700; no deaths. Franklin, Tenn., 1,800; 7 no deaths. Franklin, Ind., 4,000; diarrhoea 1; under 5 years, 1. Nantucket, Mass., 3,000; two deaths, from consumption. Rome, Ga., 5,000; deaths 1, under 5 years, 1; consumption 1, typhoid fever 1. Vallejo, Cal., 5,000; two deaths; brain fever 1, tonsillitis 1.

THE following reports, for the week ending October 1, are from cities not requiring burial permits:

Allegheny, Pa., population 75,000; deaths 19, of which 2 were under 5 years; consumption 2, diarrhoea 2, diphtheria 7, pneumonia 1, typhoid fever 2. Ann Arbor, Mich., 7,500; consumption 1. Bath, Me., 10,000; enteritis 1. Battle Creek, Mich., 7,500; enteritis 1; under 5 years, 1. Belfast, Me., 2,275; deaths 32; pneumonia 1, scarlet fever 1. Benton County, Miss., 11,000; deaths 3; consumption 1, diphtheria 1. Carrollton, Miss., 600; typhoid fever 1. Columbus, Ga., 10,000; deaths

4; under 5 years 1; consumption 1. Crystal Springs, Miss., 1,000; diphtheria 1; under 5 years. Dallas, Tex., 20,000; deaths 5; under 5 years 3; congestion of brain 1; malarial fever 1; laryngitis 1. Davenport, Iowa, 25,000; deaths 4; under 5 years 2; Bright's disease 1, diarrhoea 1, diphtheria 1, pneumonia 1. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. Greenwood, Miss., 400; no deaths. Helena, Mont., 3,500; malarial fever 1, convulsions 1. Hernando, Miss., 1,200; no deaths. Gunn City, Mo., 100; no deaths. Louisiana, Mo., 5,000; no deaths. Mansfield, O., 11,000; deaths 3. Morton, Miss., 2,001; no deaths. Mount Pleasant, Iowa, 5,000; one death. Niles, Mich., 4,630; one death; under 5 years. Painesville, O., 5,000; consumption 1. Pass Christian, Miss., 4,000; deaths 3; two infants,

one old man. Pontotoc, Miss., 600; no deaths. Portsmouth, Va., 11,000; deaths 5; consumption 1. Ripley, Miss., 1,000; diphtheria 1. Sacramento, Cal., 25,000; deaths 7; under 5 years 2; consumption 1, malarial fever 1, pneumonia 1, and whooping-cough 1. Shelbyville, Tenn., 2,000; no deaths. Sing Sing, N. Y., 5,000; deaths 9; under 5 years 2; consumption 3, diarrhoea 1, malarial fever 2, puerperal fever 1, typhoid fever 1, pneumonia 1. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 4,000; no deaths. Waterbury, Conn., 16,000; deaths 11; under 5 years 3; consumption 3, diarrhoea 1, typhoid fever 1. Weston, Miss., 2,000; no deaths. West Point, Miss., 2,500; one death; under 5 years; pneumonia. Youngstown, O., 17,000; deaths 3; under 5 years 2; diarrhoea 1, pneumonia 1, typhoid fever 1.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Cholera.		Yellow fever.	Small-pox.		Typhoid fever.		Typhus fever.	Other contagious diseases.		Total deaths.	Annual rate per 1,000.	Weekly mean.		
				Cases.	Deaths.		Cases.	Deaths.	Cases.	Deaths.		Cases.	Deaths.			Barometer.	Thermometer.	
1879.																		
Vancouver's Island	Victoria	3,500	Sept. 27	..	..	..	..	..	..	..	..	..	..	3	44.7	29.70	64.0
Canada	Montreal	135,000	Sept. 27	..	..	..	..	..	..	..	..	..	..	41	15.2	30.14	51.0
Do.	St John's	5,000	Oct. 4	..	..	..	..	..	..	..	..	..	..	2	20.8	..	63.0
Do.	Kingston	16,000	Oct. 4	..	..	..	..	..	..	..	..	..	..	..	..	30.46	61.6
Do.	Charlottetown	12,000	Sept. 27	..	..	..	..	..	..	..	..	..	..	..	..	30.02	56.6
Cuba	Havana	195,437	Sept. 27	..	..	..	..	..	..	..	..	..	..	172	45.9	29.97	53.0
Do.	Centagoes	20,215	Oct. 4	..	..	..	..	..	..	..	..	..	..	16	41.1	30.63	53.0
Turk's and Caicos Islands	West Indies	3,500	Sept. 13	..	..	..	..	..	..	..	..	..	..	..	..	29.95	56.0
Do.	do	3,500	Sept. 20	..	..	..	..	..	..	..	..	..	..	1	14.9	29.95	56.0
Do.	do	3,500	Sept. 27	..	..	..	..	..	..	..	..	..	..	..	..	29.55	53.0
Hayti	Cape Haytien	7,500	Sept. 13	..	..	..	..	..	..	..	..	..	..	7	48.7	..	..
Do.	do	7,500	Sept. 20	..	..	..	..	..	..	..	..	..	..	10	69.6	..	..
Do.	do	7,500	Sept. 27	..	..	..	..	..	..	..	..	..	..	13	90.4	..	..
Do.	do	7,500	Oct. 4	..	..	..	..	..	..	..	..	..	..	6	41.7	..	..
Do.	Aux Cayes	8,000	Sept. 3	..	..	..	..	..	..	..	..	..	..	1	6.5	28.70	53.0
Do.	do	8,000	Sept. 10	..	..	..	..	..	..	..	..	..	..	1	6.5	22.60	53.0
Do.	do	8,000	Sept. 17	..	..	..	..	..	..	..	..	..	..	4	26.1	22.50	53.0
Do.	do	8,000	Sept. 24	..	..	..	..	..	..	..	..	..	..	3	19.6	..	52.0
West Indies	San Domingo	8,000	Sept. 21	..	..	..	..	..	..	..	..	..	..	5	27.6	..	52.0
Do.	do	8,000	Sept. 28	..	..	..	..	..	..	..	..	..	..	12	34.7	29.95	52.0
Guadaloupe	Point a Pitre	18,028	Sept. 20	..	..	..	..	..	..	..	..	..	..	6	13.6	29.96	71.6
Mexico	Matamoros	16,000	Sept. 27	..	..	..	..	..	..	..	..	..	..	3	45.7	30.57	71.6
Azores Islands	Horta, Fayal	7,430	Sept. 13	..	..	..	..	..	..	..	..	..	..	4	27.4	30.66	61.0
Do.	do	7,430	Sept. 20	..	..	..	..	..	..	..	..	..	..	1	27.7	30.66	61.0
Ireland	Belfast	212,000	Sept. 29	9	1.65	16.0	30.04	55.0
Scotland	Glasgow	375,156	Sept. 20	3	185	16.7	..	53.0
England	Birmingham	375,884	Sept. 20	21	119	15.9	29.52	54.3
Do.	London	3,439,876	Sept. 20	139	1,366	23.4	..	57.6
France	Rouen	104,902	Sept. 27	..	..	..	..	..	..	..	..	..	..	66	32.8	30.00	58.6
Do.	Paris	1,982,600	Sept. 18	18	921	34.2
Do.	Toulon	77,000	Sept. 21	..	..	..	..	..	..	..	..	..	..	32	21.7	29.58	71.6
Do.	do	77,000	Sept. 27	..	..	..	..	..	..	..	..	..	..	31	19.6	29.75	66.4
Do.	Nice	49,777	Sept. 30	..	..	..	..	..	..	..	..	..	..	43	43.0	30.00	65.0
Belgium	Antwerp	169,981	Sept. 13	1	79	34.2	..	64.0
Do.	do	169,981	Sept. 20	..	..	..	..	..	..	..	..	..	..	90	27.6	29.80	63.0
Do.	Brussels	309,182	Sept. 20	..	..	..	..	..	..	..	..	..	..	103	13.5	28.66	62.6
Germany	Leipsic	115,719	Sept. 20	..	..	..	..	..	..	..	..	..	..	74	26.5	28.81	62.4
Do.	Frankfort	126,000	Sept. 13	5	45	18.6
Do.	Bremen	165,000	Sept. 13	37	15.4
Do.	do	1,062,500	Sept. 13	113	50	28.54	28.55	62.4
Holland	Rotterdam	141,000	Sept. 27	26	33	18.8
Denmark	Copenhagen	225,000	Sept. 16	16	117	37.1	30.35	56.6
Do.	do	225,000	Sept. 23	..	..	..	..	..	..	..	..	..	..	115	36.7	29.96	57.4
Italy	Genoa	95,400	Sept. 27	35	18.8	28.62	62.9	..
Sicily	Palermo	219,298	Sept. 14	6	81	19.3	28.32	77.0
Austria	Vienna	125,773	Sept. 13	1	102	44.1
Do.	Graz	109,705	Sept. 20	38	40.1
Russian Poland	Warsaw	346,703	Sept. 13	143	22.2	29.56	55.0	..
Sweden	Stockholm	169,429	Sept. 13	7	52	16.0	29.81	62.2
Norway	Christiania	113,000	Sept. 13	3	15.1	29.67	62.0	..
Spain	Alcala	40,113	Sept. 20	35	32.5
Do.	Malaga	115,882	Sept. 11	14	162	43.9	..	51.5
Do.	do	115,882	Sept. 21	36	86	38.7	..	59.0
Do.	Gibraltar	19,000	Sept. 4	11	30.2	29.89	72.9	..
Do.	do	19,000	Sept. 11	6	16.5	30.02	72.3	..
Do.	do	19,000	Sept. 20	8	22.0	29.98	67.9	..
Egypt	Port Said	9,000	Sept. 20	1	5.8	..	57.0	..

MEMPHIS.—October 6, 16 cases, 7 white; 5 deaths, 4 white. October 8, 10 cases, 7 white; 3 deaths, all white. October 10, 10 cases, 3 white; 1 death, 3 white in the city, 2 deaths outside. October 11, 16 cases, 8 white, 7 colored, 1 Chinese; 2 deaths, 1 white, in the city; 1 death, colored, outside. October 12, 12 cases, 8 white, 7 deaths, 1 white, in the city; 2 deaths, both white, outside. October 13, 7 cases, 5 white; 5 deaths, 1 white, inside the city; 1 death, white, outside. Only 2 cases now at Buntyu.

SMITHVILLE, N. C.—Dr. F. W. Potter reports, October 7, that Brunswick County, North Carolina, has adopted the rules and regulations of the National Board of Health.

JACKSON, Miss.—Inspector Dr. Wirt Johnson announces, under date of October 7, that the stations against New Orleans have been discontinued.

LACONIA, ARK.—Dr. W. T. Johnson reports that the local board of health adopted the rules and regulations of the National Board September 26.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

LIMA AND CALLAO, PERU.—Medical Inspector H. C. Nelson, U. S. N., writes as follows in regard to the health of these cities, under date of August 19:

The population of Lima is estimated at 140,000, and of Callao 20,000. As there are no sanitary officers charged with the general hygiene of these cities, the natural laws pertaining to health are most outrageously violated at all times. The diseases most prevalent are such as affect the respiratory system; scrofula, rheumatism, asthma, and other neuroses; intermittent and remittent fevers, venereal; and diseases of the integumentary system. Venereal diseases are very prevalent, and syphilis is particularly virulent and does not yield readily to the usual treatment for this affection. The deaths are said to outnumber the births in the city of Lima, and were it not for the foreign accession to its population there would be a constant decrease. In the year 1877 the death-rate was 4.8 per cent., or 48 to each 1,000 of its population. About 33 per cent. of the total number of deaths for that year were children, and yet the mortality was not unusual. This great mortality among children is due to malarial influences, which prevail in and around Lima, insufficient and improper food, and neglect of their mothers, many of whom seem devoid of all motherly instincts for the care of their offspring. The proportion of marriages is small, the percentage for the year 1877 being a fraction less than 5 to 1,000 of the population. Of 1,662 deaths among children during this year over 1,000 of them were foundlings. This condition of society may be attributed to the fact that there is no employment for women sufficiently remunerative for their support.

CALLAO.—Small-pox prevails at this port in an epidemic form. It also prevails to an equal extent in the city of Lima, eight and a half miles distant, and connected by two lines of railway, upon which trains arrive and depart every half hour during the day. It is reported, also, at Ancon, a town of several thousand inhabitants, located on the seacoast, thirty miles north of Callao, with which it is connected by rail, and which is a prominent summer resort for sea-bathing for the people of Callao and Lima. The newspapers from the south report its prevalence at Pisco, on the coast, 150 miles to the southward, and epidemic at Valparaiso and Santiago, Chile. A formal declaration of war between Chile and Peru was declared about the 10th of April last, from which date, it may be said, began the looting of an army for war purposes, the material for which was found almost exclusively among the worst of the laboring, the indolent, and the unemployed portion of the population, and it only required the assembling of such a class in any unusual bodies to furnish the germ for the propagation of zymotic diseases. Small-pox was not long in making its appearance among the troops, and continues to prevail at the present time where there are any numbers of them collected in a body. The government has used most strenuous means to prevent the spread of the disease among the population of Callao and Lima, and for this purpose has districted the two cities and appointed a vaccine physician for each district, whose duty it is made to vaccinate all persons applying to them for that purpose; and while it is not made compulsory, few fail to avail themselves of this opportunity for vaccination. The great difficulty here is to obtain not only good virus, but any virus at all. There is no one on this coast engaged in the propagation of bovine virus, and the source of the supply is London and New York, principally the former. They use only the virus preserved in capillary tubes, and this they find very unreliable, which is attributed to the influence of a tropical climate which it passes through in reaching this coast. It is said the failures, even among young children, very far outnumber the successful vaccinations. The opinion prevails here, also, that vaccination does not afford the same protection as in northern latitudes, and from the very large proportion of the natives who show the marks of small-pox it would appear that there is some foundation for this belief. I know of no people, except the Japanese, where the percentage of pock-marked persons is so great as in Peru. The articles of export from this country most liable to infection with the germs of this disease are chinchilla and other skins, and furs. The latter I consider so dangerous as to warrant their prohibition from importation into the United States unless thoroughly disinfected at the time they are unloaded from the vessel. Large quantities of chinchilla skins are exported from this coast to the United States and Europe, the greater proportion of them going to the latter country.

HAVANA.—The American brig *Stanton* sailed on the 20th for Boston; brig *Clara J. Adams* for New York and schooner *Sarah Hull* for Key West September 21. All these vessels had one or more cases of yellow fever on board while here, and are to be considered infected. For the week ending September 26 there were 26 deaths from yellow fever, and to-day there are about 100 cases in the city. Absence of new material, gradual exhaustion of those liable to this disease, removal of soldiers to the scene of insurrection, and windy weather all tend to account for the apparent diminution in the virulence of the fever.

FORT SUPPLY, IND. TER.—Dr. Leonard V. Loring, U. S. A., reports, under date of September 30, 1879:

Two cases of typhus fever occurring in cavalry recruits arriving at that post from Jefferson Barracks, Mo., where they had remained for several weeks after leaving Cincinnati. Isolation and disinfection attended to, in order to prevent the spread of the disease.

FORREST CITY, ARK.—Dr. J. B. Cummings writes as follows under date of September 10, of the sanitary condition and prevailing diseases of this town:

Forrest City is located on the western slope of Crowley's Ridge, between the St. Francis and Raguinle Rivers, four miles from the former, and six from the latter. Situated on the Memphis and Little Rock Railroad, it is forty-five miles from Memphis and ninety from Little Rock. The population is about 1,000, one-third being colored persons. The town is comparatively new, having been built since the war. A municipal board of health was created two years ago. Since that time there has been a notable improvement in the sanitary condition and health of the town, though much yet remains to be done. The board of health strongly advocates the dry earth system of privies instead of the old vault nuisances.

An epidemic of measles and whooping-cough has prevailed here within the last year. Malarial fevers in summer and autumn, and pneumonia in the winter and early spring, are the most prevalent diseases. Every few years, usually after long continued rainy weather in spring, we have epidemics of dysentery. Two cases of yellow fever in 1873, both refugees from Memphis, are the only ones that have ever occurred in the place. Our escape last year and this year is ascribed to the strict quarantine against infected places.

This section of country has enjoyed remarkable immunity from all diseases during the present year; but the attention of your board is invited to the increasing prevalence of *malarial haematuria*, a disease quite as fatal as yellow fever, and deserving more research than it has yet received.

SMALL-POX IN SAN ANTONIO, TEX.—Harvey E. Brown, Assistant surgeon, U. S. A., writes as follows, September 10, 1879:

From January 1st to August 31st, the number of cases of small-pox in the town has been 350; the number of deaths, 71; viz: In January, 12; February, 13; March, 5; April, 2; May, 3; June, 9; July, 14; August, 13. These were divided among the following nationalities: Mexicans, 19; colored, 11; white, 17. Only 4 of these deaths occurred in the central portions of the city, and only 4 east of San Pedro Creek; all the rest were among the mixed Mexican, negro, and half-breed population living in the wretched *potholes* west of that river. The city physician reports to me that on the 1st of September there were about twenty-five cases under treatment, of which seven are in the city post-house, and the remainder in *potholes*, or small houses, west of the San Pedro. Physicians in practice here, however, inform me that there has been a large increase in the number of cases, and that there are now (September 9th) not less than seventy-five to one hundred cases under treatment, and many of them in the central portion of the city. Depopulation and isolation of infected localities, the only effective means, apart from vaccination, to prevent the spread of the disease, have been practiced to but a limited extent. Infected houses have been disinfected with sulphurous acid and carbolic acid, but how thoroughly I have no means of ascertaining; but I should judge from the remarks of physicians with whom I have conversed, that it amounts to very little.

HUNTINGDON, TENN.—Dr. A. W. Hawkins writes as follows, under date of September 30:

During this month there has been no sickness of an epidemic character; the locality has been unusually healthy, and the sanitary condition of the town is good. The prevalence and spread of yellow fever in and from Memphis last year caused much anxiety here, and led at that time to the organization of a local board of health having only advisory powers. Early in the present year the board was organized and has labored earnestly to secure attention to such sanitary measures as were deemed necessary. The board has been generally seconded by the citizens in its efforts to effect proper cleaning and disinfection of privies, sinks, &c., the removal of garbage, cleaning of back yards, streets, and alleys, draining of stagnant ponds, and other measures. Within my knowledge only a single case of diphtheria has occurred in this vicinity during the past three months. The case was that of an infant which died of the disease. In July two cases of typhoid fever occurred in one town, six miles from the town, two proving fatal. The first attacked a colored man, a member of the family, who died of the fever. The second attacked a white man, a member of the family, who died of the fever. We trust that your Board will, by all means in your power, sustain our State board of health in its conflict with the cotton-pickers of Memphis. "It is better that one man" (or one locality) "suffer than that the whole nation perish."

TALLAHASSEE, FLA.—Dr. Geo. W. Betton gives the following report, under date of September 22:

This town is 20 miles from the Gulf of Mexico, situated on a hill about 200 feet above the sea level, and containing 3,000 inhabitants. The only water near the town is a small stream called the Saint Augustine Branch, which winds its sluggish course half around the foot of the hill, in some places spreading over the plain and forming marshes and bogs. These were formerly well drained, but of late years have been neglected, and have become a fruitful source of malarial fevers. The board of health, and the physicians generally, have not failed to urge attention to this matter, but so far without effect. It is believed that proper drainage of these low lands would entirely relieve the town of malarial diseases.

The apathy of the authorities in sanitary matters is partly due to the fact that this place has for many years been remarkably exempt from visitations of epidemic disease of any kind.

Yellow fever is said to have prevailed here in 1811, brought up from towns on the coast, but it has never appeared here since that time. During the late war, soldiers introduced mumps, diphtheria, variola, scarlet fever and measles, which spread chiefly among the negroes on the plantations. Since the war, only sporadic cases of these diseases have been observed.

The country between our high lands and the coast is now affected to an unusual degree with malarial fevers of severe type, due, no doubt, to the extraordinary rain-fall of the past few months, which has submerged a large portion of the low lands. At other times, this portion of the country has been considered very healthy.

ZYMOTIC AND OTHER DISEASES OF BOULDER, COLO.—Dr. Charles Ambrook writes as follows:

All the diseases specified have occurred in Boulder, but with the exception of an epidemic of scarlet fever, hereafter to be mentioned, Boulder has never been visited with epidemics. Diseases of the bowels are not frequent in this town, and when they do occur, considering the number of our people, are attended with but *very few* deaths. As to typhoid fever, such cases as occur in the older settled Eastern States, with these severe and well-marked symptoms, I have failed to see. Our fever here is that variety of typhoid known as mountain fever, and while it sometimes proves fatal, yet, as a rule, it is easily controlled, and the convalescence is rapid and perfect. We have no malaria, as is understood by that word in theague district of the Middle States. I am not aware that diphtheria has shown itself in our town; the few cases diagnosed as such are now conceded to have been scarlet fever. Rheumatism is occasionally seen. Puerperal diseases are no more frequent in this section than elsewhere. I never saw a case of worms in a child born in Colorado, but obstinate constipation is quite frequent in children here. Croup is quite rare. Pneumonia and bronchitis, as compared with those diseases in the Eastern and Northern States, are but seldom seen. The same can be said of measles. From the fact of our population being mostly Eastern people, we are subject in the main to the same class of diseases; yet they run a much lighter course; and when we consider that four out of five of the families in our town came here to improve the health of one or more of its members, we can but be surprised at the small mortality among our resident population. Our town, settled in 1860, has been visited with but one epidemic, which was scarlet fever—in 1876 and 1877—yet its mortality was but 1 per cent. of the population (35), and its estimated cases 10 per cent. of our population (350). It remained with us one year. A close scrutiny of this disease shows it to have been endemic with us since 1873. Its culmination in an epidemic in 1876 and 1877 induced our authorities to give the town a thorough cleaning up in the fall of 1877, the disease abating.

SAINT MARY'S, GA.—Dr. A. F. Barnard writes as follows, under date of October 3:

The population of this place is about 800; it is the county town of Camden County, and is one of the oldest in the United States. Situated about 12 miles from the mouth of the Saint Mary's River, on the north side, it has many advantages of location as to sanitary conditions. The water supply, of very good quality, is exclusively from pumps. The privies are partly on the surface and partly constructed with pits several feet deep. Epidemic diseases rarely prevail here, and we have no special endemic disease.

TEXARKANA, ARK.—Dr. E. T. Dale, under date of October 1, states that during the month of September dysentery prevailed in a portion of the town, and was ascribed to the foul condition of the wells. There were 7 deaths in September; 3 under 5 years of age, and 2 of these from dysentery. None from any contagious or infectious disease.

BOULDER, COL.—Dr. Charles Ambrook makes the following report for the month of September:

Only four deaths during the month; all infants under six weeks. A few cases of mild typhoid fever in the town and surrounding country, but none fatal.

HOLLY SPRINGS, MISS.—Dr. F. W. Daney reports, under date of October 4:

There were but two deaths in the town during the month of September: one an old colored man, and the other an infant ten months, also colored. Several cases of yellow fever in the county, and the quarantine against Memphis still rigidly enforced.

POMEROY, OHIO.—Dr. B. F. Rathburn, president of the board of health, writes as follows of the sanitary condition of this town, October 2:

The city has been kept in better sanitary condition this season than for several years. Personal inspection was made by committees of the board and the health officer from house to house over the greater part of the city. Over 70 new privy-vaults were ordered built this season, and a large number were disinfected with lime and coppers. The hog-pen nuisance is as bad as the privies, but they have been kept cleaner this year than for years. Dish-water and soap-suds were prohibited from being thrown in the city gutters. We have no underground sewerage. All stagnant water in the city limits was drained early in the season. We have no registration of births and deaths; no burial permits required. There have been no epidemic or contagious diseases this season. This has been considered the healthiest season (by the old resident physicians) for twenty years. The air of this vicinity is impregnated with salt vapor from the many salt-furnaces in this valley, some twenty in number, and is accounted one cause for our universal good health. The members of the board of health, six in number, serve gratuitously.

QUARANTINE IN ARKANSAS.—Dr. A. L. Breysacher writes as follows of the quarantine of that State, October 5:

The quarantine of the State having been perfected at all avenues of danger, but little is now left to be done except to give it a constant and watchful supervision. In this State we now feel secure, and so far have had no case of yellow fever to report within the limits of this commonwealth. This happy consummation and immunity from this dire foe to human life, after a long summer fraught with many anxieties and laborious duties, may be fairly and justly attributed to the prompt and efficient aid rendered this board by the National Board of Health. It affords us much pleasure to make this acknowledgment. The quarantine in Arkansas cannot, it is believed, last much longer. The time when it can be prudently raised in the State will depend wholly upon the appearance of frost. The weather now is *very* warm, and should this be prolonged the quarantine should also be continued.

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National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, OCTOBER 25, 1879.

[No. 17.]

PROPRIETARY DISINFECTANTS.

Disinfection is defined, in Circular No. 8, to be "the destruction of the poisons of infections and contagious diseases." Among the people no distinction is made between disinfectants and deodorizers, or those agents which destroy odors or "smells." Hence the importance of the distinction in the circular referred to, viz, "deodorizers, or substances which destroy smells, are not necessarily disinfectants, and disinfectants do not necessarily have an odor." Disinfection is now one of the recognized agencies in the prevention of the spread of contagious and infectious diseases. When efficiently employed, disinfectants are believed not only to render inert the contagious principle itself, but to destroy also the material conditions on which its propagation, external to the human body, largely depends. Such efficiency can, of course, be secured only when the disinfectant is of proper quality as to purity and strength, and is accurately applied to the matter or thing to be disinfected. The agents which are now known to act as disinfectants are very numerous; but they do not all act in the same manner: some oxydize, others absorb, and many are governed in their effects by the combinations in which they are used. It follows that skill and care are necessary to the effective use of all disinfectants which are not efficient in their crude or most simple form. The unskilled are very liable to be deceived by all combinations, and by disinfectants which have peculiar odors, especially in small quantities.

In view of the great importance of efficient disinfection and the many undetermined problems bearing upon the whole subject, the National Board of Health early took steps to secure the investigation of the more obscure and unsettled questions by commissions of experts. The first was directed to inquire and report as to the intimate nature of the process of disinfection under varying circumstances. The second was to prepare a report upon the best disinfectants for popular use, with instructions for disinfection, which appeared as Circular No. 8. The third was to determine the value of such popular disinfectants as were submitted to the Board, which investigation was kindly undertaken at the Laboratory of the School of Mines, Columbia College, New York, by Prof. C. F. CHANDLER, Ph. D., and ELWAN WALLER, Ph. D. The report of the last commission is now complete, and the first portion is herewith submitted. The results of this latter investigation will prove of especial value to boards of health, as it places in clear light the commercial value of the popular disinfectants:

I.—DISINFECTANTS WHICH OWE WHATEVER EFFICIENCY THEY HAVE TO ZINC AND COPPER SALTS.

I.—"Girondin Disinfectant," Passau Chemical Company,

II.—"Number One" Disinfectant, E. S. Horne.

III.—"Chloridum," F. J. Crane.

The comparative value of different metallic salts for disinfection can be found in various works referring to this subject. We can here only speak of the practical value of the preparations offered for examination, the intention being to furnish information for the guidance of boards of health and others desiring to purchase disinfectants.

In estimating the commercial value of these disinfectants the wholesale prices of the components have been taken as a basis, these being the prices at which they can be purchased by boards of health.

The following are the prices in New York at the present time:

Crystallized sulphate of zinc, per pound.....	4 1/2 cents.
Crystallized sulphate of copper, per pound.....	6 cents.
Solution of chloride of zinc (50° Beaumé), per pound.....	5 cents.
Equivalent to about 11.4 cents per pound for the salt.	

I. Girondin disinfectant.

1. Statements accompanying the sample.

The manufacturer's letter of August 5, 1879, states:

The Girondin disinfectant is composed of sulphate of zinc, acetate of copper, and baryta.

The manufacturer's circular gives the following prices:

For pure 10° Beaumé (package included):

1 case of 12 quart bottles.....	\$1 00
1 keg of 10 gallons.....	6 50
1 barrel of 20 gallons or over, per gallon.....	60
1 barrel of 10 gallons or over, per gallon.....	50
Trade discount, 15 to 25 per cent.	

For crude (impure), 10° Beaumé:

5 barrel orders, per gallon.....	25 cents net.
10-barrel orders, per gallon (barrel included).....	25 cents less 5 per cent.
100-barrel orders, per gallon (barrel included).....	25 cents less 10 per cent.
On contracts, per gallon.....	25 cents net in lhd.

For triple concentrated 30° Beaumé:

1 case of 12 quart bottles (with trade discount).....	\$12 00
On special contracts (barrel included), per gallon.....	60

The manufacturer's letter of August 11, 1879, offers—

Crude Girondin on contracts, and for large quantities only:

15 cents per gallon—10° Beaumé (crude).
50 cents per gallon—30° Beaumé (crude).
(Package and cartage extra.)

2. Examination.

It contains essentially sulphate of zinc, a small amount of sulphate of copper and acetic acid (combined), no baryta, and a little lime to render it neutral.

The "crude" contains small amounts of iron, from which the "pure" is comparatively free.

The "pure," 10° Beaumé, contains in one gallon:

Value	
About 17 1/2 ounces crystallized sulphate of zinc.....	1 1/2 cents.
ounces crystallized sulphate of copper.....	0 6/10 cents.

Total per gallon..... 1 222 cents.

The "crude," 10° Beaumé, contains practically the same amounts.

The "crude triple concentrated 30° Beaumé" contains in one gallon:

Value	
About 61 1/2 ounces crystallized sulphate of zinc.....	17 3/10 cents.
1 1/2 ounces crystallized sulphate of copper.....	0 6/10 cents.

Total per gallon..... 17 3/5 cents.

No baryta is present in any of the preparations, and even if it were it would be useless.

What is now offered as "triple concentrated" was sold in 1873 as

the regular preparation at 50 cents per quart (retail). The manufacturers have simply diluted it and placed the dilution in the market as the regular preparation, while it really has less than one-third the strength of that in the market six years ago.

II. "Number One" disinfectant, E. S. Horne.

1. Statements accompanying the sample, "said to be a zinc chloride."

Prices on the label on the can:

Pint bottles	30 cents.
Quart bottles	50 cents.
Half-gallon cans	90 cents.
One-gallon cans	\$1.75.

2. Examination.

It consists of a solution of chloride of zinc with a small amount of protochloride of iron and some free acid. Specific gravity 1.510, about 49° Beammé. It contains in one gallon about 88.86 ounces chloride of zinc and 3.52 ounces of protochloride of iron. A solution of about this strength can be purchased at 64 cents per gallon. The preparation is probably made by dissolving common metallic zinc (spelter) in crude muriatic acid. To make the solution in that way would require:

42½ ounces spelter, costing (at 6½ cents per pound)	16.6 cents.
1 gallon crude muriatic acid (20° Beammé), 9.65 pounds (at 2 cents)	19.3 cents.

Total cost

The iron in this combination has no place in the market quotations. It probably exists as an impurity in both the zinc and muriatic acid used.

III. Chloridum, F. J. Crane.

Examination.

The preparation consists of a neutral solution of sulphate and chloride of zinc, containing also extremely small amounts of copper, iron, and lime compounds.

Specific gravity 1.030 (about 4° Beammé).

The amount of zinc found would correspond to about

2 ounces chloride of zinc, or

4½ ounces crystallized sulphate of zinc per gallon.

Value as chloride, 1.422 cents;

As sulphate, 1.212 cents.

REPORT OF NATIONAL BOARD OF HEALTH.

EXTRACTS FROM REPORT OF THE OPERATIONS OF THE NATIONAL BOARD OF HEALTH FOR THE QUARTER ENDING SEPTEMBER 30, 1879, MADE TO THE HON. SECRETARY OF THE TREASURY.

The report from which the following extracts are taken includes the operations of the board under the provisions of the constituting act, approved March 3, 1879, as well as those under the quarantine act, approved June 2, 1879, and the explanatory act, approved July 1, 1879.

It relates to work commenced but not completed, and hence results cannot be given, but it will serve to show the direction and to some extent the manner in which the board has operated, leaving details to be given in the annual report required by law. In addition to the extracts, the financial condition of the board may be briefly stated as follows:

Appropriation under act of March 3, 1879	\$50,000
Expenditures under this act to October 1	\$9,146 41
Estimate of outstanding liabilities for special investigations ordered under the act	9,750 00
Available balance	\$31,093 59
	<hr/> \$50,000

Appropriation under act of June 2, 1879	\$500,000
Expenditures under this act to October 1	\$51,840 25
Estimate of outstanding liabilities	50,000 00
Available balance	\$118,159 74
	<hr/> \$500,000

OPERATIONS UNDER THE CONSTITUTING ACT APPROVED MARCH 3, 1879.

In this connection attention is respectfully invited to the following-named circulars, copies of which are hereto appended:

Circular No. 1, containing the constituting act, by-laws, and rules of the board, extracts from the minutes, and list of members and officers of the board.

Circular No. 2, and schedules based on it.

Circular No. 3, addressed to State and municipal health organizations and to prominent sanitarians to give information of the objects contemplated by the constituting act, and of the methods which the board proposes to pursue in the discharge of its duties under that act.

The principal steps taken by the board in this connection are as follows, viz:

a. The appointment of a commission to study yellow fever in the island of Cuba. The objects of this commission are as follows:

1. To ascertain the actual sanitary condition of the principal ports in Cuba from which shipments are made to the United States, and especially the ports of Havana and Matanzas; to determine how these sanitary conditions can best be made satisfactory, and especially what can and should be done to prevent the infection of the shipping at these ports by yellow fever.

2. To add to our knowledge as to the pathology of yellow fever.

3. To obtain information with regard to the so-called endemicity of yellow fever in Cuba, and the conditions which may be supposed to determine such endemicity.

4. To endeavor to find some means of recognizing the presence of the immediate cause of yellow fever other than the production of the disease in the human subject.

This commission, consisting of Drs. S. E. Chaille and Col. T. S. Hardee, C. E., of New Orleans, Dr. John Guiteras, of Philadelphia, and Surgeon G. M. Sternberg, United States Army, sailed for Havana on the 4th day of July, and will return in the early part of October. Its report will be a valuable addition to our knowledge respecting the pathology of yellow fever and the means of preventing it.

This work cannot reasonably be regarded as anything more than a preliminary survey, but it is believed that the results will be such as to show the importance of continuing the research.

b. The collecting and collating the sanitary laws of the several States, including not only the statutes, but the decisions of the several courts on questions involving public hygiene. This work has been going on under the direction of a standing committee of the Board, of which Dr. Henry I. Bowditch is chairman, and it is hoped will be completed by the time Congress meets.

c. An investigation as to the best method of determining the amount and character of organic matter in the air. At the request of the Board, this has been undertaken by Prof. Ira Remsen, of the Johns Hopkins University of Baltimore.

d. An investigation as to the effects of disinfectants—and more especially of those which may be used in disinfecting an inclosed space, such as a ship or house—upon the causes of the infective diseases. At the request of the Board this has been undertaken under the general direction of the secretary of the Massachusetts board of health, Dr. C. F. Johnson, by Dr. W. S. Bigelow, of Boston, assisted by Dr. H. P. Bowditch, professor of physiology, and Dr. Wood, professor of chemistry, of Harvard University.

e. An investigation as to the composition and merits of the various patent disinfectants, which has been made at the request of the Board by Prof. C. F. Chandler, of Columbia College, president of the board of health of New York City.

f. An investigation as to the prevalence of adulterations in food or drugs in the United States. This is under the charge of a standing committee of the Board, of which Dr. Hosmer A. Johnson, of Chicago, is chairman, and reports are being prepared by Dr. R. C. Kelzie, president State board of health of Michigan, and Professor Diehl, of Louisville, Ky.

g. A preliminary inquiry as to the diseases of food-producing animals in the United States. This is under the charge of a standing committee of the Board, of which Dr. J. L. Cabell is chairman. A report on this subject is being prepared by Prof. James Law, of Cornell University, New York.

h. An investigation into the character of the water supply of a few of the smaller towns in the southwest in which yellow fever prevailed last year. This is being made by Dr. Charles Smart, United States Army, who has been detailed for the purpose.

i. An investigation as to the flow of sewers, in relation to their sizes and gradients, in some of our principal cities. This work is under the direction of Col. George E. Waring, of Newport, R. I.

k. A sanitary survey of the eastern coast of New Jersey bordering on New York Harbor. This is being carried on under the direction of the State board of health of New Jersey, and it is hoped that the result will be a report with maps and sections which will not only be of immediate value to the State of New Jersey and the city of New York, but will serve to show how such surveys should be conducted in other localities. Certainly there are many where such survey should be made.

l. The collection of the opinions of the principal sanitary organizations and sanitarians of the United States as to the proper form of a national public health organization, including the subject of national

quarantine and the relations which should be established between State or local quarantines and a national quarantine system.

This work is under the direction of the executive committee of the Board, and the results will be laid before the Committee of the National Academy of Science, which has been appointed to consult with the Board on these questions.

m. An investigation as to the hygiene of the mercantile marine, and an inquiry as to the legislation or other measures which may be desirable or expedient to promote the sanitary condition of our merchant marine. The surgeon-general of the Marine Hospital Service was requested to furnish the Board with a report on this subject, and by his orders the investigation was undertaken by Surgeon P. H. Baillache, of that service, who is also a member of this Board.

At the date of this report all the above-mentioned investigations are in progress, and will, it is believed, yield valuable results.

OPERATIONS OF THE BOARD UNDER THE QUARANTINE ACT APPROVED JUNE 2.

[In this connection attention is invited to copies of Rules and Regulations transmitted with the report, which Rules and Regulations were prepared and issued by the Board after consultation with those sanitary and quarantine officers who had had the most experience and were most especially interested in this subject. These documents are published in the first number of the BULLETIN.]

With a view to secure the observance of these rules and regulations by the railroad and steamboat lines of the Mississippi Valley, a committee of this Board was appointed to meet the representatives of these lines in a conference held in the city of Memphis, July 2. At this conference, which was attended by the representatives of the principal steamboat and railroad lines, the rules and regulations relating to such companies were read separately, discussed, and unanimously adopted. Assurance was given of the cordial co-operation of the railroad and steamboat interests in all measures adopted by the National Board of Health in their efforts to prevent the spread of contagious and infectious diseases. All that was asked was that all rules and regulations adopted by the National Board of Health be made uniform at all places and ports. They also recommended, as a special measure of protection to the Mississippi Valley, that stations of inspection be established at Vicksburg, Memphis, and Cairo, a policy which had been previously suggested by the sanitary council of the Mississippi Valley, and which was eventually carried into effect by this Board in respect of the first and last named stations, the early outbreak of yellow fever at Memphis rendering it unnecessary and impossible to establish such a station at or near that city.

The rules and regulations recommended by this Board have met with very general approval. They have been adopted, and thereby had the force of law given to them, by the following State and local boards, viz:

The State boards of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, New Jersey, North Carolina, Tennessee, and Texas; the local boards of Brunswick, Ga., Brunswick, Tex., Bayou Sara, La., Cairo, Ill., Carlinville, Ill., Decatur, Ala., Delhi, La., Fernandina, Fla., Huntington, Tenn., Jacksonville, Fla., Lauderdale County, Mississippi, Meridian, Miss., Mobile, Ala., Pensacola, Fla., Philadelphia, Pa., Shelbyville, Tenn., Saint Louis, Mo., Tampa, Fla., Vicksburg, Miss., Saint Mary's, Ga., Darin, Ga., Corpus Christi, Tex., Indianola, Tex., Jefferson County, Mississippi, Charleston, S. C., Morgan City, La., Louisville, Ky., Helena, Ark., Clarendon, Ark., Forest City, Ark., Argenta, Ark., Deyalls Bluff, Ark., Pine Bluff, Ark., Prescott, Ark., Camden, Ark.

The only direct opposition to these rules has been made by Key West, which refused to adopt them as interfering too much with its commerce with Havana and by the city of Vicksburg, Miss., which, after adopting them, reconsidered its action, because this Board would not allow as much expenditure for quarantine purposes at that place as the Vicksburg authorities deemed advisable. (See BULLETIN No. II, page 23.)

While the experience of the past summer has shown that these rules should be modified in a few particulars, which will be done when the year's work is fairly concluded, they have in the main proved to work satisfactorily wherever there was power to enforce them.

Immediately after the approval of the quarantine act the Board, in view of the lateness of the season and the importance of obtaining at once reliable information as to the actual condition of the maritime quarantine systems of the country and the aid which they might require, appointed ten sanitary and quarantine inspectors, selecting for this purpose physicians of known education and integrity. The compensation allowed was \$10 per day and traveling expenses, and the Board has been fortunate in being able to secure the services of competent men who could be employed if needed in yellow fever districts at that rate. The rules and regulations adopted or recommended by the National Board of Health had scarcely been completed, and, in fact, had not all been printed, when the existence of yellow fever in Memphis was reported to this Board on the 10th of July, by Dr. R. W. Mitchell, member of the Board resident in that city. Requisitions for funds for the purpose of preventing the spread of the fever from the State of Tennessee to adjoining

States, and for co-operating with the State board of health of Tennessee, and with the health authorities of the city of Memphis to limit the spread of and, so far as possible, stamp out the disease existing in that city, were at once forwarded and promptly approved. The disease appeared almost simultaneously in several distinct portions of the city, and with the means then available in Memphis it was probably impossible to have done more than was done in the way of stamping out the epidemic by isolation and disinfection of individuals and of houses, or blocks or squares of houses, but the prevention of the spread of the fever to other portions of the State and to the adjoining States was certainly effected to an extent which has exceeded the expectations of the most hopeful. One of the most important measures for this purpose was the removal from the city of all persons who had not had the fever. To effect this the consent of the citizens themselves was necessary. All or nearly all of those who were able to incur the expense of a prolonged absence from their homes anticipated the wish of the authorities, but a large portion of the laboring classes refused to go to the camps prepared for their accommodations beyond the limits of the infected city, believing that they would be furnished with free rations if they remained in the city as was the case during the previous year. About 30,000 people were removed from the city of Memphis during the week, and this was effected without scattering the fever through the neighboring towns or cities. About 2,000 (2) persons were placed in the camps of observation, where they have remained through the summer. The only cases of fever in these camps have been in persons who went from them to the city. The tents for these camps were supplied by the War Department, but it has been decided by competent legal authority that they should be paid for from the funds under the control of this Board. Measures have, therefore, been taken to have them properly preserved, and on the breaking up of the camps collected and retained for future use in case of the occurrence of a similar emergency.

As a part of the history of the operations of the Board in regard to Memphis, it is proper to advert to the decision in reply to an application made by the health authorities of Memphis and of the State of Tennessee that the Board should supply subsistence for an indefinite period to the people then in the camps and to all others who could be induced to remove to them from the infected city. While recognizing the great importance of depopulating the city, with a view to the isolation of the sick and the effectual disinfection of houses, yards, &c., the executive committee felt that there were grave objections, both on the ground of legal authority and of expediency, to its assuming the responsibility of undertaking to supply subsistence to large masses of people for an indefinite time, and accordingly decided to refer the question to a full Board, which was called for the purpose, and was held Tuesday, the 19th day of August. The subject was referred at that meeting to a special committee, who submitted the following resolution and report:

"Resolved, That the funds of the National Board of Health should not be used for furnishing rations to persons placed in camps of observation, or otherwise infected by yellow fever, for a longer period than ten days from the time of the last exposure to infection by such persons."

In the body of the report of this special committee, it was stated that it was desirable to instruct the executive committee that "departures from this rule of action are only justifiable in extraordinary emergencies, where actual suffering for food or a positive failure of all schemes for arresting the spread of yellow fever by depopulating a place would occur because of a strict adherence to the letter of the resolution."

The committee further reported that they had considered the application of the Saint Louis board of health for rations and shelter for well persons detained for observation at the quarantine station below that city, and that they advised that this application be not granted, being of opinion that a compliance with this and similar demands would exhaust the funds placed at the disposal of the Board to such an extent that efforts to prevent the spread of the disease, from first and urgent sources, would be seriously interfered with. Moreover, the committee considered it to be questionable whether the Board could legitimately apply its funds to such purposes. Whereupon it was ordered that the decision of the Board be communicated to the authorities at Memphis and at Saint Louis, and on the following day the final instructions were given to the executive committee by the following order:

"Ordered, That the executive committee is hereby instructed not to issue rations to individuals or communities threatened with or affected by disease, except to persons placed under observation during the period of detention required to prevent danger of spreading the complaint, and then only to prevent individual suffering otherwise unavoidable."

The first case of yellow fever in New Orleans reported to this Board was that of a death on the 24th of July. Cases had, however, been previously reported at Mississippi City, which had probably been derived from New Orleans, and we now have good reason to believe that the disease occurred in New Orleans in the middle of June, and again in the second week of July, almost simultaneously with its appearance in Memphis.

Energetic measures as to local sanitation and disinfection were em-

played, and apparently with the result of stamping out the disease. It, however, reappeared in August, and a decided focus of infection appeared to be established. The same measures were again employed, with even more care and energy, and the disease again disappeared.

This result is very interesting and satisfactory, since it gives reason to hope that cleansing, disinfection, and isolation will, in all cases, stamp out the disease, if applied properly and in time.

The requisition ordered August 20, for the sum of \$16,000, for the purpose of establishing two floating quarantine stations of observation on the Mississippi River, one in the vicinity of Vicksburg and the other in the vicinity of Cairo, for the purpose of aiding and co-operating with the State and local boards of health of the upper part of the Mississippi Valley in the prevention of the spread of contagious or infectious diseases, indicates an apparent departure from the policy previously pursued of operating exclusively through the agency of State and municipal boards in all practical measures of quarantine. In the establishment of these floating quarantine stations of observation, designed for the protection, not of any one particular State, but for the entire upper valley of the Mississippi, it was deemed proper and even necessary to establish them with the funds of this Board, and to operate them with its own employees. The results of the procedure, as will appear from the testimony of Dr. J. H. Kaneh, secretary State board of health of Illinois, in his report, as inspector for this Board, dated September 22, and printed in the NATIONAL BOARD OF HEALTH BULLETIN, No. 14, October 4, page 121.

But one case has occurred in which, in the opinion of the Board, it was desirable to take action under the provisions of the latter clause of section 3 of the act approved June 2. This case arose from the complaints made by the health authorities of Philadelphia that vessels coming from infected ports were boarded by boarding-house runners from that city, at points outside of the jurisdiction of its quarantine authorities. The Board having ascertained by a special inquiry that neither the States of Delaware nor New Jersey could execute and enforce regulations adequate to meet the emergency, reported the facts to the President of the United States, and were authorized by him to carry out the provision of the law asset forth in said section. Under this order the Board framed certain additional rules and regulations, a copy of which is given in No. 10 of the BULLETIN, page 84, which were approved by the President August 22, 1879. To carry out these rules, Surgeon J. W. Coles, United States Navy, was detailed by direction of the President. That officer proceeded to Philadelphia to confer with the health authorities of the city, and after consultation reported that in view of the lateness of the season it was not considered desirable to establish this quarantine station or to attempt to carry out the proposed rules and regulations during the present year, which recommendation was approved by the executive committee.

The duties imposed upon the Board by the fourth and part of the fifth sections of the act approved June 2, 1879, have been discharged by the weekly publication of the NATIONAL BOARD OF HEALTH BULLETIN, a complete file of which to date accompanies this report. In conformity with the provisions of section 5 of the act approved July 2, 1879, the Board has, with the approval of the honorable Secretary of the Treasury, resolved to pay its secretary \$100 per month in addition to his regular salary.

The duty imposed upon the Board by section 3 of the act approved July 1, 1879, has not yet been performed, for the reason that Drs. Bemiss and Cochran have been occupied throughout the summer in sanitary and professional work in connection with the epidemic, and Colonel Hardie has been employed in the Havana commission; hence these gentlemen have been unable to complete their reports and place them in the hands of the Board.

The reports of the inspectors of this Board show that the quarantine establishments of the majority of our sea-ports do not possess the facilities necessary for properly dealing with infected ships. Great care has, however, been exercised during the past summer by the officials connected with the various maritime quarantine stations of the United States, and thus far no satisfactory evidence has been presented to the Board that any outbreak of contagious or infectious disease has occurred from importation during the present year.

The general adoption of the rules and regulations recommended by this Board referred to above has not prevented the enforcement in certain localities of local quarantine regulations which were unnecessary and obstructive to travel and traffic, but there has been little of this as compared to last year, and public confidence in the sufficiency of the inspections and transfers organized under the direction of this Board has steadily increased as the results became manifest.

A very valuable amount of educational work in public sanitation has certainly been accomplished during the summer, and the foundation has been laid for a rational and uniform system of inland quarantine against yellow fever, which will, it is hoped, supersede the so-called "non-intercourse," or "shot gun" methods.

The same reasons which make uniformity of quarantine system desirable as between our several States apply also to a great extent to the quarantine systems between nations.

It has seemed so evident to the board, that so far, at all events, as regards yellow fever, some effort should be made to secure harmonious action on the part of the several nations interested, that it has brought

the matter to the attention of the Hon. Secretary of State, with the suggestion that some steps should be taken to secure an international code of hygiene.

Without some international agreement of this kind it will be extremely difficult if not impossible to secure satisfactory results in preventing the introduction of contagious or infectious diseases into this country without causing derangement of commercial interests, whereas if such agreement can be had the difficulties will be greatly diminished, and comparatively little interference with traveler traffic will be needed to ensure security.

CIRCULAR NO. 1.

SURGEON GENERAL'S OFFICE,

Washington, August 18, 1879.

Medical officers of the Army will hereafter notify the "National Board of Health of the United States," at Washington, D. C., and also the "local boards of health" (if any exist), of any cases of yellow fever, of cholera, of small-pox, or of typhus fever, that may present themselves in any of the districts under their observation.

JOS. K. BARNES.

Surgeon General, United States Army.

ABSTRACTS FROM CONSULAR REPORTS.

MARACAIBO.—United States Commercial Agent E. H. Plummer sends the following communication to the State Department, dated September 13, 1879:

The British brig *Angel*, Capt. Angel Florio, master, of Gibraltar, came to this port some time ago after touching at La Guayra and Punta Cabello. Shortly after her arrival some of her crew became sick with fever, and as there is no English consul at this port and I, therefore, have to attend to the interests of vessels under the British flag, I sent the men to the hospital, where several died, according to the attest of physicians, of yellow fever. I had all the clothing of the deceased sailors burnt and the ship thoroughly fumigated and cleaned under my personal direction. The ship has taken a cargo of tustie for New York, and sailed a few days ago. I addressed a letter to the president of the state of Fúria about the health of this place and the propriety of giving outgoing vessels a clean bill of health, to which I received the answer that there was no reason to deny them such documents, as we had no epidemic at this place. Since that time I have had several other cases on board of English vessels coming down the lake, one case of *ronito negro* on board the English steamer *Pico* coming from Curacao, and I know that in consequence of the excessive heat and constant and unusual heavy rains the place cannot be very healthy. I have had no case of any disease or sickness on board of American vessels yet, and shall continue to look strictly after the sanitary condition of crews. I have given to a British vessel *Angel* a clean bill of health, as the vessel had passed a satisfactory visit of the physician and captain of the port, but I thought it prudent to inform you of it, and shall continue to bring any change in regard to the sanitary conditions of vessels in this port to the notice of the department.

MISCELLANEOUS.

A NUMBER of reports from correspondents have been received, and will be published in another number.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

CINCINNATI, OHIO.—Health officer, Dr. T. C. Minor, reports as follows of the health of this city:

As compared with the previous month (August) there was a decreased mortality from zymotic, constitutional, local, and developmental diseases, and an increased death rate from violence. There were 22 less deaths than in the month of September, 1878. Diphtheria and scarlatina still prevail to a limited extent; outside of these causes the city remains healthy.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

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MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

[illegible]

Report of mortality in cities of the United States for the month of September, 1899.

Places.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrhœal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Burlington, Vt.	16,540	—	12	7	—	—	5	1	1	—	—	—	—	—	—	—	—	—
Chattanooga, Tenn.	12,000	14	21	21.0	—	—	2	1	1	—	—	—	—	—	—	—	—	—
Chicago, Ill.	537,624	341	675	15.4	—	7	49	6	92	11	5	2	6	34	—	34	6	—
Columbia, S. C.	11,300	6	16	17.0	—	—	3	1	—	—	—	—	—	—	—	—	—	—
Elmira, N. Y.	29,406	3	24	16.4	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Hudson Co., N. J.	199,000	—	204	18.3	—	4	47	25	10	—	—	—	—	—	—	—	—	—
Kansas City, Mo.	61,000	21	65	12.3	—	—	5	2	—	14	16	3	1	—	—	—	—	—
Keeok, Iowa.	15,000	4	11	8.8	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Nashville, Tenn.	27,085	27	68	20.0	—	—	14	13	1	—	—	—	—	—	—	—	—	—
New Haven, Conn.	69,000	27	70	11.0	—	—	9	2	—	—	—	—	—	—	—	—	—	—
Norfolk, Va.	24,000	34	60	20.0	—	—	6	11	1	—	3	6	—	—	—	—	—	—
Providence, R. I.	101,500	57	134	15.7	—	1	20	12	—	—	—	—	—	—	—	—	—	—
Richmond, Ind.	14,000	4	15	11.1	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Totals	1,099,445	547	1,177	16.1	11	113	153	126	1	53	11	5	13	25	4	—	11	—

Report of mortality in cities of the United States for the week ending October 11, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebrospinal fever.	Consumption.	Diarrhœal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Me.	Bangor	20,000	1	4	10.4		1										1		
N. H.	Concord	14,000	1	2	7.4														
Mass.	Boston	375,000	63	134	18.6		18	12	4	2	15			1	6		2	3	
	Cambridge	50,000	5	12	12.5		3	3	3										
	New Bedford	27,000	9	16	30.9		1	3	3						1				
	Newburyport	13,800	1	4	14.9														
	Marblehead	7,500	1	2	13.9		1												
	Fall River	45,500	2	16	17.2		1					1			2		2		
	Lowell	52,000	1	17	17.0		1	1	2								2		
	Lawrence	40,000	5	10	13.5		1	2	2	1							1		
	Brockton	12,000	1	3	13.0			1	1								1		
	Pittsfield			1													1		
	Milford	10,000		2	10.4		1												
R. I.	Providence	101,500	12	23	14.9		4		2		2				6		1	2	
Conn.	New Haven	60,000	4	23	20.0		4	2				2				1			
	Norwich	17,000	1	6	18.4		2												
Vt.	Burlington	16,500	2	4	12.6														
N. Y.	New York	1,097,563	227	493	23.4	2	74	53	14	6	68	12	3	4	3	7	9		
	Brooklyn	264,448	20	207	19.1		35	18	22	2	22	3		2	4	1			
	Poughkeepsie	20,000		5	13.0														
	Newburgh	17,500	1	5	14.8		1										1		
	Hudson	8,724																	
	Binghamton	18,000	1	4	11.6			1				1							
	Utica	35,000	1	10	14.9		2					1			1				
	Rochester	90,000	6	30	17.4		4	1	2		3								
N. J.	Hudson County	199,000	27	62	16.2	1	5	6	4		2	1			6				
	Newark	132,000	28	55	21.7		5	2	3		3	4							
Penn.	Philadelphia	901,350	58	226	13.1		42	6	3		7					2	10	3	1
	Erie	30,000	3	8	13.9		2									1			
	Reading	40,110	10	16	20.8			3	2			1							
	Pittsburg	145,000	23	53	19.1		1	2	10		4	1				4	3	1	
Del.	Wilmington	44,000	4	14	16.6														
Md.	Baltimore	66,000	6	137	21.0	1	2	10	8		4	2				5		4	
District of Columbia*		170,000	17	51	15.6		7	5	1		1	2				5	4	4	
Va.	Norfolk	24,000	4	12	26.0		1	3	2			1					1		
	Richmond	80,000	5	16	10.4		6												
S. C.	Charleston	27,000	2	13	21.2		2		1		2			1					
Ga.	Savannah	32,656	16	23	36.7		1		2		2	4					1		
	Atlanta	39,000	6	13	17.3		1				1								
	Augusta	26,874	3	13	23.2		1	3											
Fla.	Pensacola	20,000	3	5	30.7		1												
	Jacksonville	10,000		2	10.4								1				1		
Ala.	Mobile	40,000	4	9	11.7		3						1						
Miss.	Vicksburg	15,000	1	3	10.4							1	1						
W. Va.	Wheeling	35,000	8	14	20.9		2		1										
Ohio.	Cincinnati	250,000	40	97	18.1	1	16	5	7		7			1				2	
	Cleveland	175,000	35	57	17.0		4	2	9		1	1			3		1		
	Cincinnati	5,500	1	3	25.4														
	Dayton	39,000	2	9	12.0		3		2		1	1							
Mich.	Port Huron	8,190		1	6.4														
Iud.	Evansville	37,500	5	13	18.1		2	1						1	2				
	Indianapolis	97,000	9	23	12.4		3	2				4			2				
	Richmond	14,000																	
Ill.	Chicago	537,624	80	190	18.4	1	21	1	18	1	11	2	1			14	10		
	Peoria	40,000	1	14	18.3		8									2			
	Quincy	35,000	1	11	16.4													3	1
Wis.	Milwaukee	124,000	15	37	13.0		7		8		5			1					
Minn.	St. Paul	54,000	6	11	11.2		1												
	Minneapolis	52,000	8	16	16.0		1				2			1					
Iowa.	Des Moines	30,000	1	5	8.7					1									
	Keokuk	15,000	2	3	10.4		1	1							1				
Mo.	St. Louis	500,000	40	102	10.6	1	14	11	5	1	3	3		1	1			2	
Kans.	Lawrence	8,478	3	9	55.4				4			1							
Nebr.	Omaha	30,000	4	15	12.2	1	1				1				1	1			
Cal.	San Francisco	300,000	17	78	13.0	1	18	4	1		4	2		1	1				
	Los Angeles	14,000	4	4	14.9														
Utah.	Salt Lake City	25,000	6	12	25.0														
Totals.		8,073,640	1,096	2,674	17.2	13	393	262	156	8	184	68	5	16	74	5	81	28	1

* District of Columbia has 114,000 white, 56,000 colored; deaths, 27 white, 24 colored. Rate per 1,000, white, 12.1; colored, 22.4. Norfolk has 14,657 white, 9,912 colored; deaths, 9 white, 3 colored. Rate per 1,000, white, 31.3; colored, 15.8. Charleston has 25,000 white, 32,000 colored; deaths, 6 white, 15 colored. Rate per 1,000, white, 12.5; colored, 21.1. Savannah has 67,493 white, 15,166 colored; deaths, 5 white, 16 colored. Rate per 1,000, white, 20.9; colored, 55.0. Atlanta has 23,750 white, 15,200 colored; deaths 3 white, 10 colored. Rate per 1,000, white, 6.0; colored, 31.3. Augusta has 15,246 white, 11,628 colored; deaths, 6 white, 7 colored. Rate per 1,000, white, 39.5; colored, 31.1. New Orleans has 15,000 white, 33,000 colored; deaths, 51 white, 33 colored. Rate per 1,000, white, 18.2; colored, 31.3. Nashville has 17,555 white, 9,500 colored; deaths, 7 white, 7 colored. Rate per 1,000, white, 20.7; colored, 35.4.

† All Mexicans.

THE following reports, for the week ending October 11, are from cities not requiring burial permits:

Allegheny, Pa., population 75,000; deaths 15; under 5 years, 8; consumption 1, diarrhoea 1, diphtheria 7, typhoid fever 2. Ann Arbor, Mich., 7,520; deaths 3; under 5 years, 1; consumption 1, typhoid fever 1. Bath, Me., 10,000; deaths 2; consumption 1. Battle Creek, Mich., 7,500; deaths 2; consumption 1, diphtheria 1. Belfast, Me., 5,278; consumption 1. Benton County, Miss., 11,000; 1 death. Calais, Me., 7,000; deaths 2; consumption 1. Carrollton, Miss., 600; old age 1. Columbus, Ga., 10,000; deaths 2; consumption 1. Crystal Springs, Miss., 1,000; no deaths. Decatur, Miss., 1,000; 1 death. Greenwood, Miss., 400; no deaths. Gunn City, Mo., 100; no deaths. Hernando, Miss., 1,200; no deaths. Jackson, Miss., 5,000; deaths 2; malarial fever 1. Lansing, Mich., 10,000; no deaths. Louisiana, Mo., 5,000; deaths 4; under 5 years, 1; cerebro-spinal fever 1, consumption 2. Mansfield, Ohio, 11,000; deaths 1; under 5 years, 2; causes not given. Morton, Miss., 200; old age 1. Mount Pleasant, Iowa, 5,000; deaths 2; under 5 years, 1. Niles, Mich., 1,630; deaths 2; diphtheria 1, scarlet fever 1. Painesville, Ohio, 5,000; croup 1. Pass Christian, Miss., 4,000; no deaths. Pontotoc, Miss., 600; no deaths. Port Gibson, Miss., 1,100; diarrhoea 1. Ripley, Miss., 1,000; deaths 2; under 5 years, 1. Sacramento, Cal., 25,000; deaths 11; under 5 years, 1; consumption 1, malarial fever 1; typhoid fever 3. Shelbyville, Tenn., 2,000; no deaths. Starkville, Miss., 1,163; no deaths. Tuscaloosa, Ala., 4,000; deaths 2; under 5 years; diarrhoea 1, malarial fever 1. Waterbury, Conn., 16,000; deaths 11; under 5 years, 5; consumption 1, pneumonia 1, puerperal fever 1. Waynesborough, Miss., 500; 1 death under 5 years. Winona, Minn., 11,780; deaths 2; under 5 years; typhoid fever 1. Youngstown, Ohio, 17,000; deaths 13; under 5 years, 5; diarrhoea 1, diphtheria 1.

THE following reports, for the week ending October 11, are from cities requiring burial permits and having not over 5,000 population: Bridgewater, Mass., population 3,000; deaths, 1; consumption, 1; malarial fever, 1. Brunswick, Ga., 3,000; no deaths. Edgartown, Mass., 1,700; no deaths. Franklin, Tenn., 1,800; diphtheria, 1. Franklin, Ind., 4,000; typhoid fever, 1. Murfreesborough, Tenn., 4,000; deaths, 2; typhoid fever, 1. Nantucket, Mass., 3,000; deaths, 6; under 5 years, 1; old age, 3; infant, 1. Rome, Ga., 5,000; deaths, 3; typhoid fever, 2; old age, 1. Vallejo, Cal., 5,000; deaths, 3; consumption, 2; suicide, 1.

LOCAL OUTBREAKS OF FEVER.

CONCORDIA, LA.—Yellow fever is reported (October 19) still spreading within the town, but not outside. Sixty-five cases, and 23 deaths to date. Most fatal among whites.

LITTLE ROCK, ARK.—Dr. A. L. Breysacher states, under date of October 15, that two new cases and two deaths are reported at Forest City, Ark., since yesterday; five cases now there. No new cases at Hopefield.

NEW ORLEANS.—Dr. J. P. Davidson reports, October 17, one case in the city, a girl four years old, corner Franklin and Saint Andrew's streets. She has black vomit and suppression. No new cases at Morgan City nor at Berwick.

WITHE DEPOT, TENN.—Inspector W. B. Winn reports as follows on the case at this place, October 9:

Mr. W. B. Stewart, aged 35, was taken with a chill (October 6, 10 p. m.) lasting about half an hour. The chill was followed by high fever, pain in the head, back, and limbs. At 3 a. m. he was seen by his brother, Dr. Stewart, who found his temperature 101°; pulse, 90. During the day his temperature fell to 103°; pulse, 84. When I first saw the patient (7 p. m., 7th instant) I found his temperature 102°, pulse, 84, eyes injected, and a characteristic yellow-fovea tongue. The next day (8th instant, 7 a. m.) the thermometer showed 102°; pulse, 78; slight nausea. At 10 a. m. the temperature was 102½°; pulse, 76; nausea increasing. At this time Drs. Stewart, Bone, and myself unhesitatingly pronounced it yellow fever.

The following facts bearing upon the origin of the case were ascertained: Mr. Stewart had not been into Memphis, or had any communication whatever with persons from that place. For the past month and a half he has been sleeping upon a mattress upon which a man died last October of yellow fever, the black-vomit stains being still plainly visible. There were two deaths of yellow fever last year in the room in which he is now sick, and which he has been occupying during this summer. The two patients who died last year in this room lay during their sickness upon loose ungummed cotton. This cotton was not removed from the room until the latter part of Octo-

ber, 1878, when it was taken out, ginned, baled, and shipped for market. The owner of the cotton (Dr. Stewart) informed me that when it was removed the yellow-fever odor was quite as offensive as when the patients were sick. After the removal of the cotton, Dr. Stewart, without having taken any precautions to disinfect it, used the room as an office, *keeping a fire in it night and day during the entire winter*. After the death of the patient, in October last, his mattress, the same upon which Mr. Stewart is now sick, was hung out in the open air upon a fence and remained there night and day until the middle of winter exposed to rains and freezing weather.

HERNANDO ROAD.—Inspector W. B. Winn reports as follows, October 3, upon the cases which occurred at this point:

Mrs. Nicholson lived about 1½ miles from Memphis, and was attacked September 20. Her case was well marked, and it is exceedingly doubtful whether she will recover or not. Miss Lillie Ingram, her grandchild, was attacked October 1, and will very probably die. Mrs. Nicholson has two sons-in-law, Mr. Townsend and Mr. Ingram, living about a mile apart. She had been living for some time with the latter, and was attacked the morning she left there for the house of Mr. Townsend, where she is now sick. Miss Lillie was attacked at the house of her father a day later. There are still two whites in each house liable to the disease.

The following facts bearing upon the origin of the disease have been ascertained: Mrs. Nicholson had not been to Memphis for over a year. Mr. Ingram was in the habit of visiting the city quite frequently, carrying packages of merchandise (dry goods, &c.) home with him. Miss Lillie Ingram very probably contracted the disease in the same way as did her grandmother, Mrs. Nicholson.

MORGAN CITY, LA.—Inspector Dr. J. P. Davidson, in his inquiry as to the cause of the outbreak of yellow fever in this town, reports the following facts:

That a shameful disregard of the cleansing and fumigation of the premises infected in the epidemic of 1878 was perhaps the rule on the part of those whose care and duty it was to enforce rigidly these prudential and essential precautions to secure immunity from the infection the next summer, reports made to me by reliable persons make certain. I deem it a duty to set forth some of the facts, the recital of which may operate as a warning to the future both there and elsewhere.

Mr. Lowenstein, a Jewish rabbi, and his wife died of yellow fever in Morgan City in 1878. They inhabited a house situated on Everett street, in the rear of Whitney Hall, not far removed from the central part of the town. Immediately on the death of these persons, the house was hurriedly vacated and locked up, leaving all things contained in it precisely as they stood at the moment of desertion. In the month of May the house was opened and the contents offered for sale at auction. Persons who visited the premises at this time state that the beds and bedding on which the unfortunate occupants died were found just as when their bodies were removed from them, stained with excreta of all kinds, and the food, unconsumed when the last repast was partaken of, stood as it was left on the table, the effluvia from the confined and impure air being almost intolerable. The furniture and effects of the late owners in the house were sold at auction, including the beds and bedding, to various persons residing in the town. It is stated that two of the victims of the fever this year, Etienne Bongours, who died with black vomit September 7th, and the brother of Emanuel Lech, who also died of the same September 20th, made purchases of some of the effects, and which were taken to their residences.

At the close of the epidemic in 1878, a building appropriated in Morgan City as a hospital by the authorities, was closed and the mayor ordered that the building be cleansed and fumigated, and that all the mattresses be burned, this duty being intrusted to one in whom he confided. It appears that the order was totally disregarded, the house remaining as when it was shut up, after the last victim of the fever had been borne to his resting place. The place remained not more silent and sealed to the outer and busy world than the hospital. Some time later in the summer another expectation that there would be occasion to use the building again for a hospital, it was opened for inspection, and a revolting spectacle was presented to view of man's criminal negligence and indifference in dealing with so subtle, invisible, and malignant a foe as yellow fever.

BERWICK, LA.—Inspector J. P. Davidson reports as follows upon the first cases of yellow fever at this place:

From pretty general inquiries made by me of leading residents in Berwick, I learned that the first unquestionable case of yellow fever in the town occurred in the person of a boy, who resided in Morgan City on the 2d of September, the day after the severe storm. He fell sick three days afterwards, the 5th of September, and died on the fourth day, 5th of September, with black vomit.

From Mr. Watkins, a shipwright residing in Berwick, I learned that Lynda Johnstone, his step-daughter, aged 21 years, a native of Berwick, absent in 1878, fell sick with yellow fever September 15th, and was seen by Dr. Broadbuss on the 18th. Dr. Broadbuss gave me the following detail of symptoms at the time of his visit:

"Was taken sick with a chill September 15th, the case having been pronounced one of bilious remittent fever; seen by me on the 18th of September, the fourth day; pulse, frequent and feeble; temperature, 102½; skin, cool; black vomit; urine, not tested." Case recovered.

2. "Senepha Barniff, sister of Lynda Johnstone, aged 22, born in Berwick, a refugee in 1878, was attacked on the 17th of September; pronounced a case of bilious remittent fever; seen by Dr. Broadbuss on the 18th; temperature, 105; pulse, slow, 35; on the 19th of September temperature 104; no nausea; eyes, badly injected; great jaundition; all the head symptoms; urine, not tested." Died Monday, 23d, at 11 p. m.

3. "Elizabeth Fashing, aged 50, born in Louisiana; taken sick on the 14th of September; temperature, when seen on the 18th, 100.5; case a mild one." Recovered.

4. "John Fashing, son, aged 14, born in Louisiana; taken on the 14th of September; when seen, on the 18th, temperature 101½; took 30 grains quinine that night; temperature the next morning, 10th, 99.5." Recovered.

5. "Ferdinand Follath, aged 17, born in Berwick; taken ill September 17th; first seen on the 18th; temperature, 104½; took 30 grains quinine last night; temperature in the morning, 102½; retention of urine." Died on the 23d of September.

6. "Adele Fagot, aged 10 years, born in New Orleans; taken sick September 17th; seen on the 18th; temperature, 103; took 30 grains quinine through the night; temperature, morning of the 19th, 100½." Recovered.

The progress of the fever in Berwick from this date to the day of my visit there, September 25th, averaged one case a day.

MEMPHIS.—October 20, 9 new cases, 6 white; 2 deaths, both white. October 21, 10 cases, 5 white; 6 deaths, all white. Outside of city, 3 deaths, 1 white.

AUSTIN, TEX.—Gov. O. M. Roberts states, October 15, that the increase and spread of yellow fever in Arkansas and in Louisiana render quarantine necessary at Jefferson, Tex.

HAVANA, CUBA.—We have reliable information to October 8, that the Spanish local board of health is issuing clean bills of health to vessels, while there is abundant evidence that not less than seventy-five cases of yellow fever exist in the city at this date.

NATIONAL QUARANTINE STATION, NEAR VICKSBURG, MISS.—Inspector F. E. Daniel, under date of October 10, makes the following summary of operations for the week:

Steamboats inspected during the week, 12; barges, 7; vessels without certificates from New Orleans, 4; clean bills of health issued, 11; vessels proceeding without papers (Port Eads and 7 barges), 1; certificates issued to passengers from New Orleans, 7; certificates of New Orleans passengers *risid* and approved, 9; passengers from New Orleans without certificates, unknown.

TORONTO, CANADA.—The diseases prevailing in this city during the week ending October 4, were as follows, in the order of their frequency: Bronchitis, whooping-cough, consumption, diarrhoea, intermittent fever, rheumatism, neuralgia, influenza, and typhoid fever. The barometer was above the average, and remarkably steady; the mean temperature for the week was 61.28, being 10.5 above the mean for the year. Highest temperature, 73.7, October 1, 2 p. m.; lowest, 41.9, morning of October 4.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

PLEASANT HILL, MISS.—Dr. H. W. Gray gives the following account of the sanitary condition of this town, September 23:

This town is inland, eight miles east of the Mississippi and Tennessee Railroad, and twenty-two miles from Memphis. It is situated on high, dry hills, but at a distance of not more than three miles is almost surrounded by stagnant streams and muddy sloughs with wide

bottoms. Its population is about 300. We had no yellow fever last year, owing, I think, to rigid quarantine, although we had it within two miles of this place. I was attacked by the fever, but after a long and painful illness recovered. It first attacked two men, one white, one colored, who had opened a bolt of bagging from Memphis. From those two it spread to every person who came into or on the place during night, thirteen of us in all. The negroes suffered very little, with the exception of one mulatto woman, aged about 20, who had black vomit, hæmaturia, bloody rectal discharges, and oozing of blood from the gums and nostrils. She finally recovered. Two whites died, one in three days, from the chill, the other in five weeks, from abscess in parotid regions, axilla, and breast.

The town is in good condition; no disinfection used except crude sulphate of iron, which is thrown into privies. At a meeting of the board of health and mayor and aldermen, held some time before the epidemic made its appearance in Memphis, both bodies adopted a rigid quarantine in regard to any person or thing coming from an infected locality. They have admitted provisions when not done up in cloth or paper wrappings; no other article of any description allowed to enter. We are six miles from the Tennessee line, which is closely guarded by the county quarantine police, who admit no person from Memphis.

LEWISVILLE, IND.—Dr. N. G. Smith writes as follows of the sanitary condition of this town, September 23:

This town is in fair sanitary condition. We have had no general epidemic here for eighteen months. We are situated in a region of Indiana once noted for its malarial diseases; but of later years diseases of that character are becoming less prevalent. During the fall and winter months we have typhoid complications. But one well-marked case of scarlet fever has occurred here in the past twelve months. We have more cases of lung affections than of any other one class of diseases; undoubtedly produced by the very sudden changes in temperature. The drainage of this county is very good, and but few stagnant pools of water are found. This town has officially failed for years in keeping the sinks and privy vaults in a good sanitary condition; but an effort is being made to remedy this evil. Our population is about 700. We do not compel burial permits.

PONTOTOC, MISS.—Dr. W. R. Minniace writes as follows, September 30, in regard to the health of this town:

Pontotoc is a small town, 20 miles from the Mobile and Ohio Railroad, and situated upon a high ridge—the dividing ridge between the Tombigbee and Mississippi Rivers. Our natural drainage is perfect; every rain washes our town clean, and it is noted for its healthfulness. Malarial diseases prevail to a very limited extent, and are of a mild type. Severe malarial diseases are an exception. Our soil is sandy, with red clay foundation. We are near no large watercourses. Our sanitary condition is in every respect good, but consumption at times makes sad ravages among our people, the deaths from that disease alone amounting to as many or more than from all others.

THE NATIONAL BOARD OF HEALTH.

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NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of five cents per copy. Notice of at least one week should be given when a large number is required.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, NOVEMBER 1, 1879.

[No. 18.]

TREATMENT OF INFECTED LOCALITIES AT THE END OF THE EPIDEMIC.

The time is near at hand when the thousands of refugees from Memphis and other points in the southwest, where yellow fever has prevailed during the past summer, will return to their homes, and it is of the highest importance that they should see that these are put in good sanitary condition before they are again occupied. Every house and every closed space in houses in such localities should be considered and treated as if there had been cases of the fever in it, no matter whether it has been occupied during the summer or not. Every closet, cellar, article of clothing, bedding or other textile fabrics, all drawers, bureaus, trunks, &c., should be treated as if infected. The treatment is simple and costs little or nothing. It consists of thorough ventilation, cleanliness, and exposure to cold.

Attention is especially invited to the following memorandum on this subject, prepared by Drs. S. M. Bemiss and R. W. Mitchell, of this Board:

1. A fall of temperature to the freezing point renders it safe for persons to visit places which have been dangerously infected with yellow fever; but it is to be remembered that cold cannot disinfect places or things in any way protected from its action.

2. Therefore persons who have been absent from places infected with yellow fever during the past summer should be warned of the danger of occupying houses before they have been thoroughly cleansed, ventilated, fumigated, and chilled. The doors and windows should be opened, and all parts of the house exposed when the thermometer indicates the lowest degree of temperature; in other words, between sundown and sunrise. Fires should only be lighted a few hours before occupancy.

3. The measures of cleansing, disinfection, exposure to cold and air should include, as far as possible, closets, presses, cellars, shut places of every description, and boxes or trunks.

4. Privies, dry-wells, and cisterns should be emptied and cleansed. 5. All bedding, clothing, textile fabrics of all descriptions, or other material capable of shielding the infection from cold or from the air, should be disinfected by heat, either moist or dry, or by exposure to the atmosphere at low temperature.

6. These measures should be begun as long as possible before the return of absentees or visits by unprotected persons.

7. Persons returning to places which have been dangerously infected should exercise care in purchasing bedding or ready-made clothing without being assured that it has been properly disinfected.

EFFECTS OF ABSOLUTE QUARANTINE.

It is not surprising that the non-intercourse policy of preventing the spread of yellow fever has taken a firm hold upon the isolated communities of the South. In 1878 many towns allowed free travel and traffic with infected localities, and suffered severely as an apparent result, while other places kept up a rigorous quarantine and escaped. Although it must be conceded that non-inter-

course is an effective preventive measure, it certainly has nothing else to commend itself to the favor of a community. On the contrary, it is attended with many, and sometimes grievous, hardships. Not only are the quarantined people shut out from the sources of supply, but adjacent localities are often equally deprived of communication with the outside world; the routes of commerce in and through the territory are obstructed, to the great detriment of large portions of the country; and, finally, the sick and suffering may be deprived of succor and care, as in the following instance. Non-intercourse is the most ancient system of quarantine, and has always been attended with great hardships. Whatever good has resulted from the system has been more than balanced by the evils that have followed. But modern science teaches methods of prevention compatible with that degree of travel and traffic which is necessary to the welfare of the people and the best interests of commerce. Sanitary inspection and supervision, rigidly and intelligently enforced, will prove as effectual in preventing the spread of contagious and infectious diseases along the lines of travel and trade as the most absolute shot-gun quarantine.

The following telegraphic correspondence conveys its own lesson:

MEMPHIS, TENN., October 9, 1879.

Dr. J. W. ROSS,

Inspector National Board of Health:

SIR: I have the honor to make the following report: In pursuance of instructions, I left on the special locomotive from the M. & T. R. depot for Harrison's Station, Miss., to investigate report of yellow fever at that point. The subjoined telegrams give the result of the trip:

"CAMP BEKE (STATE LINE), TENN.,

"October 7, 1879,

"Dr. J. H. P. WESTBROOK,

President De Soto County (Mississippi) B. of H., Hernando, Miss.:

"Yellow fever is reported at Harrison's. The mayor has telegraphed for nurses and physicians. I am here on an engine with them, and want a pass to go through De Soto County and return. Three persons have died and one now sick in one house. Answer.

"A. D. LANGSTAFF,

National Board Association,

"HERNANDO, MISS., October 8, 1879.

"A. D. LANGSTAFF,

President Howard Association:

"DEAR SIR: We have our lines closed against Memphis and Shelby County, and no possible chance to pass any person from the infected district. Would appreciate more danger from physicians and nurses than from any other persons. We are menaced with the disease at several points on our line, and have several families now isolated and quarantined who have been exposed in Marshall County, Mississippi. We have so far succeeded in keeping the terrible pestilence out of our county, and we cannot now, at this crisis, run any risk whatever.

"J. H. P. WESTBROOK, M. D.,

President Board of Health."

Not wishing to abandon the effort to reach Harrison, Major Langstaff sent the following to Dr. Westbrook:

"Am surprised at your refusal to permit us to proceed to Harrison. As the person who is supposed to have yellow fever may die before assistance can reach him from other sources, I appeal to you to re-

consider your recent decision, as we will not stop in your county and will run at a speed not less than forty miles per hour. Dr. S. H. Collins, of the National Board of Health, and Dr. H. Ess, of the State board of health of Tennessee, are with me and join in this request.

"A. D. LANGSTAFF,
"President Howard Association."

This elicited another refusal from Dr. Westbrook.

The quarantine of the Soto County, Mississippi, is very effectively enforced, and though the fever exists northeast and south of this county, they, by reason of their rigid quarantine, absolute non-intercourse, have so far entirely escaped. From what I could gather from the railroad men at the transfer station, it is very probable that there is yellow fever at Harrison and Oakland Stations, Miss., as five persons have died within the last few weeks with very suspicious symptoms. Respectfully submitted.

S. H. COLLINS, M. D.,
Inspector National Board of Health, Memphis, Tenn.

ABSTRACTS FROM CONSULAR REPORTS.

ANTWERP, BELGIUM.—United States Consul John H. Stenart forwards the following report for the eight weeks ending August 23:

Estimated population, 103,900; deaths, 626, giving an average mortality per annum of 24.0 per 1,000. There were 97 cases of small-pox and 17 deaths; of typhoid fever, 66 cases and 41 deaths; one death from diphtheria. Sanitary condition of the city rated "good."

SAN JUAN DEL NORTE, NICARAGUA.—United States Consul J. C. Kretchnmar makes the following sanitary report for the two months ending October 9:

Population estimated at 1,500; only one death, from enteritis. Prevailing diseases, mild forms of malarial fever, usually yielding to the simplest treatment in from three to nine days. No contagious or infectious disease, and sanitary condition of the place "good." Mean temperature, 80°.

CAPE HAYTIEN HAYTI.—United States Consul S. Gontier writes as follows, October 6, to the Department of State:

The British bark *Skiddaw*, which arrived here from Port Liberty with fever on board, lost another seaman, making six in all. It appears that the pumps were not properly fixed, in consequence of which a certain quantity of bilge-water remained to contribute to the malaria pervading that ill-fated vessel. She was sent to quarantine and was thoroughly cleansed and fumigated.

The French bark *Infante d'Or*, which sailed yesterday for Havre, lost four men, and the doctors say that some of them died of typhoid fever.

The list of mortality for the four weeks ending October 4 is as follows: For week ending September 13, 7 deaths; September 20, 10 deaths; September 27, 13 deaths; October 4, 6 deaths; total, 36.

A certificate was sent to the consulate October 2, signed by the health officer, his assistant, and four of the principal physicians of Cape Haytien, stating that as good health now prevails in the city and harbor, consuls can, without danger, grant clean bills of health. In consideration of which, after a satisfactory personal inspection of the American schooner *Charles E. Warren*, which sailed for New York October 1, a clean bill of health was granted. A bill of health was not granted to the American schooner *Emma Crosby*, because she had loaded at Port Liberty, whence the bark *Skiddaw* had brought the fever from which six of her crew had died.

MOSCOW, RUSSIA.—The United States consul reports, for the month of May, 2,098 deaths in a population estimated at 601,969; annual rate, 11.8 per 1,000. The causes of death were: small-pox, 20; typhoid fever, 96; other contagious diseases, 155; pneumonia, 283; other diseases of respiratory organs, 726. Mean temperature, 56°.

For the month of June 2,039 deaths are reported, giving an annual rate of 40.6 per 1,000. Deaths from small-pox, 12; typhoid fever, 75; other contagious diseases, 153; pneumonia, 253; other diseases of respiratory organs, 772. Mean temperature, 60° 6. Sanitary condition "very imperfect" from defective drainage, absence of sewerage

and of public privies; many streets are very filthy. The climate is good, the air being dry and pure.

PORT VICTORIA, ISLAND OF MAHÉ, SEYCHELLES.—The report from this town is for the year ending December 31, 1878. The population was estimated at 12,000 July 1, 1878. The record shows 378 births, 83 marriages, 24 stillbirths, and 294 deaths; annual rate of mortality, 24.5 per 1,000. Deaths under 5 years, 119. From diarrheal diseases, 76, of which 46 were under 5 years; consumption, 3; pneumonia, 26; whooping-cough, 10.

UNITED STATES CONSULAR AGENCY, CRONSTADT, RUSSIA.—Consular Agent Paul Morch writes as follows under date of October 6:

I regret to state that vital statistics at this port are only issued when epidemic disease prevails, and as there is no such disease here at present the authorities decline giving me the desired information. I will, however, report the appearance of any infectious or contagious disease in this district, and will endeavor to obtain some details of sanitary matters in compliance with instructions.

ISLANDS OF MALTA AND GOZO.—For the two weeks ending August 31 the United States consul reports 181 deaths in a population of 153,508, being at the annual rate of 30.8 per 1,000. The only disease noted is typhoid fever, from which there were 8 deaths. Sanitary condition of the islands reported as "quite healthy."

SANTA CRUZ, TENERIFFE.—Mr. W. H. Dabney, in forwarding weekly reports, states that yellow fever has appeared but three times at Santa Cruz; the last time was in 1862, when it prevailed for five months. Cholera has visited Grand Canary, 40 miles distant, but did not extend to other islands.

HAVANA, CUBA.—Advices to October 18 state that the American bark *Lisbon*, which sailed for New York on that day, had during her stay at Havana eight cases of yellow fever on board out of a crew of ten men, the other two having had the disease. The vessel having discharged at a very foul wharf, she is to be considered infected. Six vessels in the harbor are known to have one or more cases of the fever on board, and there are about sixty cases in the city; the rate of mortality is much diminished in the past week.

The system of inspection of vessels, instituted by the National Board of Health, has already wrought a great improvement in the sanitary condition of the shipping, and finds general favor with captains and consignees, who are anxious to learn what they should do to put their vessels in the best hygienic condition.

This is especially the case with those interested in trade with Florida, and even the masters of fishing-smacks from Key West, declare that inspection should have been instituted long ago. All vessels clearing for United States ports, and having *only* the Spanish local bill of health, should be treated as infected; there is positive proof that some of them had yellow fever on board while at this port.

TRIPOLI, BARBARY.—United States Consul H. Cuthbert Jones sends a report of mortality for the two months ending September 12, 1879. Correct reports of cases cannot be made, as the Arabs seldom permit Europeans to enter their dwellings, and when sick, are treated by their "saints," whose panacea is a strip of paper on which are written a few lines from the Koran. This is macerated in water and taken by the patient, with great faith in its efficacy. There were 22 deaths from small-pox during

the two months, 1 Christian, 1 Jew, the rest mostly Arab children; the disease is not regarded by the quarantine physician as likely to become epidemic. The evident exemption of the Christian population during the frequent visitations of small-pox has overcome the religious opposition of the Mussulman people so far that many of them have their children vaccinated. During the six months ending June 30, 1879, the quarantine physician reports the following successful vaccinations: Christians, 85; Mussulmans, 324; Israelites, 594; total, 1,003. Owing to the heat of the climate, *teething* is attended with frequent fatal diseases, and the ophthalmia of the country is too well-known to require description. In addition to the 22 deaths from small-pox, 2 are reported from diphtheria; total deaths from all causes, for the two months, 130, in a population estimated at 20,000. The government has promised to take a census, but it is not likely to be done soon.

SIERRA LEONE, AFRICA.—United States Consul J. A. Lewis reports for the month of August 118 deaths in an estimated population of 45,000; rate per annum, 31.4 per 1,000. No contagious diseases are reported, and the prevailing diseases were malarial fevers, and rheumatism, consumption, and kidney diseases, from exposure to wet. With regard to *malaria*, the condition is gradually improving with the clearing up of woods in the vicinity and better surface drainage. In the native part of the town no privies are used; refuse and excrements are thrown in the streets and left till washed away by the rains. The principal streets in the English part of the town are well kept. Mean barometer, 29.85 inches; thermometer, 80°.

TAMPICO, MEXICO.—Under date of October 6, United States Consul A. J. Cassard writes as follows:

We cannot anticipate much relief from the yellow-fever epidemic in this city until the occurrence of some strong "norther." The decrease in the number of deaths is to be ascribed to exhaustion of material for the disease rather than to any improvement in the sanitary condition of the place. Until last year this port kept a good sanitary record, having been infected but once in the preceding fifty years. In 1865, during its occupation by the troops of the intervention, a severe epidemic broke out, but disappeared with the withdrawal of the troops, and the city retained its healthfulness till September, 1878, when it became so thoroughly infected as to lose at least 20 per cent. of its population, then estimated at 5,000. Five hundred victims already appear on the death-roll for this year, and there are probably many more not reported. I have observed that persons coming from mountain regions were most liable to the fever, and among them it was almost invariably fatal.

Tampico is a very clean little city, being situated upon a group of hills, and washed by the tropical rain-storms at this season. There is no health office here, and reports of cases cannot be obtained. I submit the following report of deaths:

	Yellow fever.	Typhus fever.	Permeious fever.	Other causes.	Total for week.
Week ending Sept. 13	13	3	21	4	41
Week ending Sept. 20	6	2	17	5	30
Week ending Sept. 27 .....	.....	1	13	5	19
Week ending Oct. 4 .....	.....	.....	16	7	23
Total	19	6	70	21	116

MISCELLANEOUS.

MEMPHIS.—October 22, 5 new cases, 1 white; no deaths two new cases at Buntyn Station. October 23, one new case, colored; two deaths, white, in the city. Outside one death, white. Lowest temperature at night 39°. October 24, two new cases, both white; two deaths, one white, inside the city. One death, white, outside. Local board of health will to-morrow declare the epidemic at an end. October 25, one new case, white; one death, colored, in the city; one death, colored, at Buntyn Station. Quarantine raised and pickets disbanded, tents collected, &c.

HELENA, ARK.—Under date of October 25 Dr. A. A. Horner reports that two frosts have occurred, and he has notified the president of the State board of health that there is no further danger of the fever spreading to uninfected places.

FOREST CITY, ARK.—Under date of October 21, Dr. R. W. Mitchell reports that the usual population is 1,200. At present about 90 whites remain, of whom 40 have been more or less exposed to the infection in sick rooms or burying the dead. There have been 16 cases and 13 deaths. At present 4 new cases and 3 convalescent. All roads picketed. October 22, one new case since last report. October 23, no new cases.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

ARKANSAS CITY, ARK.—Under date of October 21 W. A. Stanby, secretary of the local board of health, requests that this board be added to the list of those which have adopted the rules and regulations of the National Board. This action was taken September 1 by the board of Arkansas City.

CLARKSVILLE, TENN.—John W. Faxon, secretary of the local board of health, reports, October 22, that the city council adopted the rules and regulations of the National Board of Health, August 4; also passed an ordinance requiring burial permits.

CHARLESTON, S. C.—The report of Dr. Leiby, quarantine officer, for the week ending October 18, shows the arrival of 8 vessels in port, all free from infectious diseases. Four were detained for observation, arriving from the ports of Porto Rico, Bahia, Para, and Havana, their sanitary condition being more or less imperfect.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

LOCAL OUTBREAKS OF THE FEVER.

VICE-PRESIDENT'S ISLAND, TENN.—Inspector Dr. W. B. Winn writes as follows, October 11: Mr. J. C. Oates, aged 28, in the employ of Mr. G. W. Humphreys, of Vice-President's Island, was attacked October 8 and died October 13, with suppression and black vomit. Mr. Oates had been in the habit of visiting the city of Memphis almost daily for the purpose of trading, and carrying negroes from the city to the island to pick cotton. There are ten persons of the Humphreys family, who have not yet had the fever, living in the same house in which Mr. Oates died, and who have been more or less exposed to the disease.

NATIONAL BOARD OF HEALTH rooms are at 1110 G street, northwest.

Report of mortality in cities of the United States for the week ending October 18, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Me	Bangor	20,000	1	3	7.5		2												
N. H.	Concord	14,000	1	3	22.0			1									1		
Mass	Boston	375,000	36	112	15.6		16	12	9		5			2	3		1	4	
	Cambridge	50,000	8	19	19.5		4	3	3		3				2				
	New Bedford	27,000	1	8	15.5		1	1											
	Newburyport	13,000	2	6	22.3		2											1	
	Mablehead	7,500	1	3	21.0		1												
	Fall River	48,500		12	12.9														
	Lowell	52,000	9	20	26.1		3	3			2								
	Lawrence	40,000	7	15	19.6		3	4	1								2		
	Brockton	12,000	1	5	21.7			1			2								
	Pittsfield	10,000		5															
	Milford	23,000	3	5	11.3														
R. I.	Providence	101,500	12	34	17.5		10		5		1				4				
Conn	New Haven	60,000	5	15	13.0		3				2								
Vt.	Burlington	16,500																	
N. Y.	New York	1,097,563	193	415	19.7	4	66	49	15	1	65	8	4	1	2		5	5	
	Brooklyn	564,448	92	198	16.6		34	13	15		17	4			4		3	7	
	Poughkeepsie	1	1	1	2.6														
	Newburgh	17,508	4	4	11.9		1												
	Hudson	8,784	1	1	5.9	1													
	Sing Sing	5,000	2	10	104.3						2	4		1			2		
	Binghamton	18,000	1	3	7.7														
	Utica	45,000	3	13	19.4														
	Rochester	90,000	7	27	15.7		4	1			3						2	1	
N. J.	Hudson County	199,000	45	70	20.7		11	4	5		3				8		2		
Penn	Philadelphia	291,860	25	228	13.2	2	37	10	11	1	11			1			6	1	
	Erie	30,000	5	5	1.1														
	Reading	40,110	3	8	10.4	3	2												
	Pittsburg	40,000	23	53	19.1		6	1	11		3					6		2	
Del.	Wilmington	44,000	4	11	10.0		4				1								
MD	Baltimore	400,000	65	137	17.9		21	7	16		10	1	2		11		4	3	
	District of Columbia*	170,000	16	48	14.7		8	4		3				2			3		
Va.	Norfolk*	34,000	3	10	21.7		4		1		3								
	Richmond	20,000	8	26	16.0						1								
S. C.	Charleston*	57,000	17	33	30.2		4	1	1								2	1	
Ga.	Savannah*	32,656	14	30	47.9		4	1	2		2	5					1		
	Atlanta	41,000	3	9	21.5		1				3								
	Augusta	26,774	6	17	33.0						3	1							
	Rome	5,000	3	6	62.6					1	1								
Fla.	Pensacola	8,500	5	9	55.2	2	1	1									1		
	Jacksonville	10,000	1	1	5.2			1											
Ala.	Mobile	40,000	3	23	16.0		3												
Miss	Columbus	5,300		1	9.8														
La.	New Orleans*	210,000	26	88	21.8		22	3			1	7							1
	Shreveport	7,000	2	3	22.3				1										
Tex.	Austin	15,000	3	3	10.1						1								
Ark.	Little Rock	22,000	2	4	9.5						1	1							
Tenn	Nashville	27,000	5	11	21.2		2	1			1						1		
	Chattanooga*	12,000	1	3	13.0						1								
W. Va.	Wheeling	35,000	7	10	14.9				1										
Ohio	Cincinnati	280,000	40	91	16.9		16	6			6	3		2	8		1	1	
	Cleveland	175,000	25	48	14.3	1	2	5	6		1	3			2		1	2	
	Gallipolis	5,300		3	28.4														
	Dayton	39,000	12	12	16.0														
Mich.	Pont Huron	8,150	1	3	19.1														
Ind.	Evansville	37,500	4	10	13.9	2					1					1			
	Indianapolis	97,000	5	22	11.8			5	2	2							6		
Ill.	Chicago	637,624	123	113	11.9		1	13	4	11						9		2	
	Peoria	40,000	4	9	11.7	1	2	1	1									2	
	Quincy	35,000	3	11	16.4		3				1								
	Moline	7,000	1	2	11.9					1									
Wis.	Madison	124,000	15	37	13.9					2		1	2						
Minn.	Minneapolis	52,000	4	8	8.0	1	1				2	1							
Iowa	Des Moines	30,000	1	4	7.0		1												
	Burlington	30,000	2	5	8.7														
	Kokomo	15,000	4	4	15.9		1												
Mo.	St. Louis	500,000	42	100	10.4		15	7	6		2	8		1	1		3		
Kans.	Lawrence	8,478	1	1	6.2				1										
Nebr.	Omaha	40,000	4	12	20.9				1	3						1		2	
Utah	Salt Lake City	25,000	4	9	18.8														
Cal.	San Francisco	300,000	17	78	13.6	1	18	4	1		1	2		1			1		
	Sacramento	25,000	3	14	29.2		1	2	1										
	Vallejo	5,000	1	3	31.3			1											
Totals			7,721,860	982	2,408	16.2	19	370	167	145	3	165	57	7	10	65	61	30	1

* District of Columbia has 114,000 white, 56,000 colored; deaths, 29 white, 28 colored. Rate per 1,000, white, 9.1; colored, 26.1. Norfolk has 14,087 white, 9,913 colored; deaths, 7 white, 3 colored. Rate per 1,000, white, 25.9; colored, 15.8. Richmond has 16,000 white, 31,000 colored; deaths, 12 white, 14 colored. Rate per 1,000, white, 13.6; colored, 21.3. Charleston has 25,000 white, 32,000 colored; deaths, 12 white, 21 colored. Rate per 1,000, white, 25.0; colored, 34.2. Savannah has 17,493 white, 15,165 colored; deaths, 12 white, 15 colored. Rate per 1,000, white, 15.5; colored, 31.6. Atlanta has 25,000 white, 16,000 colored; deaths, 4 white, 5 colored. Rate per 1,000, white, 8.3; colored, 16.3. Augusta has 15,246 white, 11,625 colored; deaths, 6 white, 11 colored. Rate per 1,000, white, 20.5; colored, 49.3. New Orleans has 155,000 white, 55,000 colored; deaths, 50 white, 32 colored. Rate per 1,000, white, 18.5; colored 30.4. Nashville has 17,585 white, 9,500 colored; deaths, 5 white, 6 colored. Rate per 1,000, white, 14.8; colored, 32.9. Chattanooga has 8,000 white, 4,000 colored; deaths 3, all colored. Rate per 1,000, 39.1.

The following reports, for the week ending October 18, are from cities requiring burial permits, and having less than 5,000 population:

Bridgewater, Mass., population, 3,900; 1 death, old age. Brunswick, Ga., 3,000; consumption, 1; scarlet fever, 1, under 5 years. Edgartown, Mass., 1,700; no deaths. Franklin, Ind., 4,000; no deaths. Murfreesborough, Tenn., 4,000; no deaths. Nantucket, Mass., 3,000; deaths, 3; consumption, 1; old age, 1, general debility, 1.

The following reports, for the week ending October 18, are for cities where burial permits are not required:

Allegheny, Pa., population, 75,000; deaths, 14; under 5 years, 9; consumption, 1, diphtheria, 3, whooping-cough, 2. Bath, Me., 10,000; deaths, 4; under 5 years, 1; croup, 1. Battle Creek, Mich., 7,500; deaths, 4; 3 from cardiac disease, and 1 from paralysis. Belfast, Me., 5,278; consumption, 1, pneumonia, 1. Benton County, Miss., 11,000; deaths, 2; under 5 years, 1; consumption, 1, diphtheria, 1. Carrollton, Miss., 600; no deaths. Columbus, Ga., 10,000; deaths, 4; under 5 years, 2; consumption, 1, malarial fever, 1, typhoid fever, 1, whooping-cough, 1. Crystal Springs, Miss., 1,000; no deaths. Dallas, Tex., 20,000; deaths, 3; under 5 years, 1; typhoid fever, 1, old age, 1. Dayton, Ohio, 25,000; deaths, 7; under 5 years, 2; consumption, 1,

diarrhea, 2, malarial fever, 1, puerperal fever, 1, whooping-cough, 1. Decatur, Miss., 1,000; no deaths. Fayette, Miss., 300; no deaths. Franklin, Tenn., 1,800; no deaths. Helena, Mont., 3,500; no deaths. Hernando, Miss., 1,200; consumption, 1. Jackson, Miss., 5,000; no deaths. Louisiana, Mo., 5,000; deaths, 2; diphtheria, 1, under 5 years. Mansfield, Ohio, 11,000; 1 death. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; 1 death, under 5 years. Niles, Mich., 4,630; deaths, 2; scarlet fever, 1. Painesville, Ohio, 5,000; no deaths. Pass Christian, Miss., 4,000; deaths, 2; consumption, 1. Pontotoc, Miss., 600; no deaths. Port Gibson, Miss., 1,100; 1 death, poisoning. Portsmouth, Va., 14,000; deaths, 3; under 5 years, 2; consumption, 1. Ripley, Miss., 1,000; no deaths. Shelbyville, Tenn., 2,000; malarial fever, 1. Starkville, Miss., 1,163; no deaths. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 4,000; deaths, 2; diarrhea, under 5 years. Waterbury, Conn., 16,000; deaths, 6; under 5 years, 2; typhoid fever, 1. Winona, Minn., 11,786; deaths, 4; malarial fever, 1, typhoid fever, 1. Youngstown, Ohio, 17,000; deaths, 4; under 5 years, 2; consumption, 1, whooping-cough, 1.

LITTLE ROCK, ARK.—Dr. A. L. Breysacher, president of the State board of health, telegraphs October 25, as follows: We have had two frosts, and the disbanding of all guards is ordered to-day.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending.	Cholera.		Yellow fever.		Smallpox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Total deaths.	Annual rate per 1,000.	Weekly meas.	
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.			Barometer.	Thermometer.
Vancouver's Island	Victoria	3,500	Oct. 1879.	1	1	1	1	1	1	1	1	1	1	1	1	1	14.9	29.60	54.0
Canada	Montreal	135,000	Oct. 18	1	1	1	1	1	1	1	1	1	1	1	1	6	25.3	30.06	60.4
Do.	St. John's	5,000	Oct. 18	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	60.0
Do.	Kingston	16,000	Oct. 18	1	1	1	1	1	1	1	1	1	1	1	1	6	19.6	30.09	59.2
Do.	Charlottetown	12,000	Oct. 18	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
New Brunswick	St. John	46,000	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	18	20.2	30.01	50.1
Bahamas	Nassau	12,000	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Cuba	Havana	195,437	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	134	35.4	29.91	81.0
Do.	Cienfuegos	20,218	Oct. 16	1	1	1	1	1	1	1	1	1	1	1	1	15	38.7	29.91	81.0
Guadaloupe	Point a Pitre	15,022	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	11	31.8	29.96	84.7
Haiti	Ans Cayes	8,000	Sept. 24	1	1	1	1	1	1	1	1	1	1	1	1	3	19.6	29.50	82.0
Jamaica	Kingston	40,000	Oct. 1	1	1	1	1	1	1	1	1	1	1	1	1	3	19.6	30.13	80.0
Mexico	Matamoros	16,000	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	5	29.3	29.99	75.8
Guatemala	Guatemala	5,500	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Honduras	San Pedro	4,000	Sept. 20	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Brazil	Para	126,575	Sept. 9	1	1	1	1	1	1	1	1	1	1	1	1	88	36.3	30.12	77.0
Teneriffe	Santa Cruz	16,610	Sept. 6	1	1	1	1	1	1	1	1	1	1	1	1	2	13.7	30.69	70.0
Faial, Azores	Horta	7,500	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	2	13.7	30.69	70.0
Ireland	Queenstown	10,000	Oct. 4	1	1	1	1	1	1	1	1	1	1	1	1	9	46.9	...	...
Do.	Londonderry	31,874	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	1	30.07	54.0	...
Do.	Belfast	212,000	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	14	17.1	15.7	54.7
Scotland	Glasgow	578,456	Oct. 4	1	1	1	1	1	1	1	1	1	1	1	1	4	21	19.2	50.6
Do.	Leith	57,000	Oct. 5	1	1	1	1	1	1	1	1	1	1	1	1	4	21	19.2	50.6
England	London	3,630,468	Oct. 4	1	1	1	1	1	1	1	1	1	1	1	1	124	13.8	19.0	54.5
Do.	Bristol	210,000	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Do.	Sheffield	297,138	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Do.	Sheffield	297,138	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	15	10.6	17.7	30.18
France	Paris	1,014,902	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	4	23.9	30.06	60.3
Do.	Paris	1,988,406	Oct. 2	1	1	1	1	1	1	1	1	1	1	1	1	5	915	24.4	...
Do.	Paris	1,988,406	Oct. 9	1	1	1	1	1	1	1	1	1	1	1	1	5	915	24.4	...
Do.	Nice	104,902	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	1	30.01	66.6	...
Switzerland	Zurich	22,008	Oct. 4	1	1	1	1	1	1	1	1	1	1	1	1	9	21.3	...	...
Holland	Amsterdam	200,352	Oct. 4	1	1	1	1	1	1	1	1	1	1	1	1	13	24.6	...	...
Do.	Rotterdam	117,000	Oct. 4	1	1	1	1	1	1	1	1	1	1	1	1	6	12.1	...	...
Do.	Rotterdam	147,000	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	17	61	22.7	...
Germany	Frankfurt	126,000	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	3	47	19.1	...
Do.	Bremen	165,000	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	26	12.9	...
Do.	Magdeburg	148,000	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	13	14.1	29.93	52.2
Belgium	Antwerp	169,941	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	2	27	28.6	30.14
Do.	Brussels	394,422	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	10	5	19.1	24.9
Do.	Brussels	394,422	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	3	19.1	24.9	29.5
Do.	Brussels	394,422	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	3	19.1	24.9	29.5
Saxony	Dresden	215,100	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Do.	Dresden	215,100	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Denmark	Copenhagen	225,000	Sept. 30	1	1	1	1	1	1	1	1	1	1	1	1	18	14.1	24.4	30.12
Italy	Naples	458,611	Aug. 16	1	1	1	1	1	1	1	1	1	1	1	1	1	21.1	27.6	29.5
Do.	Naples	458,611	Aug. 24	1	1	1	1	1	1	1	1	1	1	1	1	1	29.5	24.4	29.5
Do.	Lechore	97,410	Oct. 11	1	1	1	1	1	1	1	1	1	1	1	1	3	19.6	30.09	59.2
Do.	Venice	141,211	Aug. 30	1	1	1	1	1	1	1	1	1	1	1	1	7	19.6	30.09	59.2
Austria	Trieste	127,133	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Do.	Trieste	127,133	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Romania	Bucharest	214,240	Oct. 1	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Russian Poland	Warsaw	396,704	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Sweden	Stockholm	109,429	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	2	19.6	30.09	59.2
Spain	Malaga	115,000	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Do.	Malaga	115,000	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Morocco	Tangier	15,000	June 24	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Do.	Casablanca	6,500	Oct. 1	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Algeria	Algiers	65,055	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Tripoli	Tripoli	29,000	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2
Egypt	Port Said	9,000	Sept. 27	1	1	1	1	1	1	1	1	1	1	1	1	1	19.6	30.09	59.2

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

CHATTANOOGA, TENN.—Under date of September 30, Dr. W. T. Hope writes as follows:

Thus far in the present year Chattanooga has been free from yellow fever and other dangerous contagious and infectious diseases. Some months since a committee of citizens was chosen by the people and delegated proper authority by the city council to carry out such sanitary measures as were deemed advisable to promote the immediate healthfulness of our people and the better sanitation of our city. This committee has acted under the advice and direction of the health officer, Dr. Sims, and the local board of health. Its efforts have been mainly directed toward improving our poor system of drainage and removing outside of the corporate limits filth and garbage. The system of house-to-house inspection, such as has been practiced in New Orleans, has not been adopted and executed as it should be, though efforts in that direction have doubtless been made as far as practicable with the limited means at the disposal of the sanitary committee. A careful inspection of the privies of the city has been made and their owners required to fill them several inches with dry earth, after which to make an occasional application of coppers, dry earth, or lime. The privy system here is defective, consisting mainly of shallow vaults from one to six feet in depth, and more generally unlined with brick and cement than otherwise. The board of health recommended a *regulation price* for the city, but the recommendation has stood as a dead letter upon the ordinance book, after having been accepted and approved by the board of mayor and aldermen. Some stringent legislation on this subject is much needed here and elsewhere.

Our people have generally approved the action of the National Board, and seem disposed to encourage its perpetuation.

At a meeting of the city council, September 29, an attempt was made to modify the existing quarantine regulations against the city of Memphis, but the matter was deferred until another meeting, when it is hoped uniformity of action in favor of the proposed modification can be obtained.

As a rule our people are now enjoying a comparative degree of healthfulness, and the cool weather gives promise of an early winter, when the usual forms of malarial affections incident to the season give place to different types of disease.

VINELAND, N. J.—Dr. Charles Brewer, under date of October 3, sends a report of mortality at this place for the month of September, and gives the following account of the condition and diseases of the village:

Vineland is in many respects favorably situated, but not being incorporated, there is little public attention to sanitary measures, and the water supply is from shallow wells or from cisterns, and as the ground is rather level, and the soil sandy and absorbent, more or less pollution of the wells must occur. But in spite of the dangerous practice of fertilizing gardens near to sleeping-rooms with half-decomposed night-soil, and the existence of stagnant ponds and ill-drained tracts of land in the vicinity, the place is remarkably free from malarial diseases. In fact, Vineland is resorted to by many invalids from other places, a fact to be noted in considering the mortality reports of the village. The tract called Vineland embraces portions of Cumberland, Atlantic, and Gloucester Counties, but Landis Township proper lies in Cumberland County. The population is included within the limits for which the report is made is between eight and nine thousand. Certificates are required in all cases as to the cause of death, &c.

There were five deaths in September: two under five years, from "non-development"; there was one death from consumption, one from cancer of the stomach, and one from unknown cause.

SANITARY INSPECTION OF TOWNS IN ILLINOIS.—Inspector Dr. J. H. Rauch writes as follows in regard to the inspection of towns in Illinois:

The work at Mound City is only a part of a regular, systematic sanitary inspection of towns and villages in this State, inaugurated and directed by the Illinois State Board of Health. The blanks are those which I prepared last spring, and these have been distributed, together with necessary instructions, from the secretary's office, to nearly every town in the State. The necessity of direct personal supervision of the work has necessarily limited the inspections to certain areas which I deemed most important, either by reason of their exposure to the introduction of epidemic diseases, or because of patent and pressing insanitary conditions affecting the death-rate and morbidity of the place, or for kindred reasons. The former was the cause of selecting the towns along the Ohio and Mississippi rivers; and Mound City (where the work was done by a sanitary policeman in the pay of the State board) is only one of many. At other points, as at Galesburg, Decatur, &c., the expense of the inspections is defrayed by the local authorities.

BURLINGTON, VT.—Dr. George M. Ockford writes as follows, under date of October 8:

The city has been healthy during the past month, with the exception of measles. The public schools opened September 1st, and since that time the epidemic has been wide-spread, probably fully 60 per cent. of the primary department-scholars having been afflicted. Diphtheria occurs occasionally, but is not generally of a malignant character.

Small-pox appeared in the southern part of the State early in the month, having shown itself at Bellows Falls, Windham County. It was confined to one family, and was supposed to have been imported from Montreal. There have been a good many cases of diphtheria in Addison County, almost epidemic in character, and of a severe form. I am also informed that scarlet fever has occurred in that section, but to what extent I am not informed. Typhoid fever has occurred sporadically in the eastern part of the State, but it has not been very prevalent.

The diseases of Vermont vary according to the section. In Burlington typhoid fever is almost unknown; but catarrhal diseases, neuralgias, rheumatism, and, as a sequence, lesions of the heart are quite common. The winter months usually bring quite a number of cases of pneumonia and kindred complaints. Consumption is comparatively rare in Burlington, and a great deal more prevalent east of the Green Mountains than in the western country.

PHILADELPHIA, PA.—Dr. R. A. Cleemann, member of the board of health, transmits the following communication on the health of this city:

In Philadelphia the month of September was less warm than usual, and, though cloudy and hazy days were not wanting, but little rain fell. The mean temperature of the month, calculated from the records of the United States Signal Service, was 64.8° F., a degree and a half below its average for several years past. The rainfall of 1.1 inches is less than one third of the average amount gathered in this month. Coincident with these meteorological conditions, the death-rate was comparatively low. For the four weeks ending September 27 the number of deaths recorded in the registration department of the board of health was 1,039, which number, in a population estimated at 901,380 souls, is equal to an annual mortality of only 15.5 deaths to a thousand inhabitants living.

Of the 1,039 deaths 283 occurred in infants less than a year old, 64 at ages between 1 and 2 years, 51 between 2 and 5 years, 37 between 5 and 10 years, 17 between 10 and 15 years, 33 between 15 and 20 years, 111 between 20 and 30 years, 122 between 30 and 40 years, 82 between 40 and 50 years, 104 between 50 and 60 years, 37 between 60 and 70 years, 65 between 70 and 80 years, 34 between 80 and 90 years, and 10 beyond 90 years.

A low mortality, however, is characteristic of September in Philadelphia; the month is, indeed, with the exception of November, the healthiest of the year. This is doubtless due to its position in the calendar; the excessive heat of the summer has passed away while the "rawness" and intense cold of the winter have not yet appeared. Malarial fevers, dreaded in other localities at this season, are of a mild grade, and, terminating almost invariably in recovery, do not fill a large place among the causes of death. Occasionally a death is returned to the office of registration as from "typho-malarial fever," but it is then classed in the mortality from typhoid fever on the assumption that the result has been brought about by the enteric-fever poison.

That the month this year holds its usual rank in general mortality is evidence in advance that it has been marked by no severe visitation from any epidemic scourge, yet there have been as many as 210 deaths, about one fifth of the whole mortality, which are registered below as from zymotic diseases. They are divided among the specific causes as follows, placing the larger figures first: Cholera infantum, 63; other diarrheal diseases, 56 (including under this heading, from diarrhea 2, dysentery 6, cholera morbus 2, inflammation of the stomach and bowels 29, hemorrhage from the bowels 4, gangrene of bowels 1, cramps 1); typhoid fever, 28; malarial fevers, 5; diphtheria, 16; croup, 7; scarlet fever, 12; whooping cough, 11; cerebro-spinal meningitis, 5; pneumonia and septicaemia, 8; carbuncle, 2; erysipelas, 1; puerperal fever, 1. Total, 216.

It is quite probable that this number would be increased if some cases could be extracted which are lost under the following headings, which refer to the mortality among minors: Marasmus, 74; inanition and debility, 42; congestion and inflammation of the brain, 41; convulsions, 35; and teething, 3.

Compared with the month of August the deaths from cholera infantum fell off nearly 75 per cent., and those from the other diarrheal diseases also diminished very much. A high temperature plays so active a part in increasing the mortality from these causes that the following contrast is appositely introduced. In the four weeks of August the mean temperature was respectively 76° 3, 72° 2, 72° 1, and 68° 5 F., while in those of September it was 72° 4, 65° 5, 63° 6, and 57° 7 F.

The mortality from typhoid fever (28) is a third less than an average for September, computed from the number of deaths from this

disease recorded in the month in each of the ten years preceding 1876. In 1876, a year distinguished in Philadelphia by a pretty extensive epidemic of typhoid fever, the deaths from the zymotic in September reached 104; in 1877, in the same month, 59; and in last year 39. The figures for this year are then favorable, and appear even more so when it is observed that the decrease is part of a marked subsidence of the usual summer maximum of mortality from this disease. During the recent summer the deaths from typhoid fever were but 76, while in that of the year 1876 they numbered 218, with a record of 159 in that of 1877 and of 116 in that of 1878.

Though I have never been able to trace a connection in Philadelphia between the impurity of the drinking water and the prevalence of typhoid fever, so many high authorities have demonstrated such a relation in other places that the fact that the drinking water, especially that from the Schuylkill River, is now more free from organic matters than in the previous summers may be not without significance. The improvement in the water from the Schuylkill is seen from the following analyses, made at different dates, by Dr. Cresson, to whom I am indebted for the record:

Source of water supply.	Date.	Ammonia.		
		Free.	Albumi- noid.	Free ni- trates.
		<i>Grains</i>	<i>Grains</i>	<i>Grains</i>
		<i>U.S. gal.</i>	<i>U.S. gal.</i>	<i>U.S. gal.</i>
Fairmount Forebay.....	July 15, 1876.	.01700	.04400	.15750
Fairmount Forebay.....	Mar. 3, 1879.	.00424	.01010	.05100
Belmont Forebay.....	Aug. 28, 1877.	None.	.00520	.05100
Belmont Forebay.....	Mar. 3, 1879.	.00424	.01012	.05100
Spring Garden Water Works....	Aug. 28, 1877.	None.	.07000	.05100
Spring Garden Water Works....	Mar. 3, 1879.	.00125	.00564	.04250

Another probable reason for the greater immunity from fever is not to be overlooked, namely, the method of removing excreta, which was adopted in 1876. Formerly this work was done at night, furtively as it were, the material being placed by hand in ordinary carts. Now it is forbidden to clean wells except in the open day, when it is accomplished by exhaust pumps emptying into air-tight receptacles—measures which certainly have led to greater efficiency.

The deaths from diphtheria, croup, and scarlet fever were, in the instance of each disease, far less numerous than in the earlier months of the year, while whooping cough, not a very fatal affection in Philadelphia, was credited with about the same mortality as usual.

It is a matter of congratulation, doubtless measurably due to the zeal in the performance of vaccination engendered by our epidemics of a few years ago, that two years have elapsed since a single death from small-pox has been reported, the last fatal case being registered in August, 1877.

OMAHA, NEBR.—Dr. R. C. Moore writes, October 14, as follows:

The city of Omaha, containing a population of about 20,000, is situated on the west bank of the Missouri River, between the 41st and 42nd degrees of latitude. The topography of the city is as follows: From the Missouri River, at low water, there is a rise of about twenty feet to the bottom lands; these lands are overflowed every spring, and when the water recedes a number of ponds remain, which, drying out in summer, are a source of malaria in the fall. The level bottom extends back from the river from a quarter to half a mile, where there is an abrupt rise of sixty feet to the second bench or plateau, upon which the principal part of the city is built. This plateau varies in width from a quarter of a mile to one mile and a half, and is well drained by two small streams flowing from the west and emptying into the Missouri River, one in the southern part of the city and the other in the northern. From this second bench the bluffs proper rise to an elevation of 200 feet above the river to a high rolling prairie, covered to a great extent by the native grasses.

A system of sewerage has been adopted, making the natural water courses the main sewers, into which the lateral sewers will empty. About \$50,000 was expended last year on one of the main sewers, and the effect of this improvement has been so materially to improve the appearance and health of that part of the city and to enhance the value of real estate, that there is a strong probability that the entire system will be completed before many years.

The water supply is from wells, ranging in depth from twenty to thirty feet, inadequate in quantity to the wants of the citizens, and in the central part of the city most villainous in quality. The soil and underlying strata of sand and clay being very porous, the quantity of water in the wells is very perceptibly affected by the amount of rainfall, and in hundreds of instances privy vaults and cesspools, having been dug to the stratum from which the wells are supplied, must necessarily impregnate them with their foul contents. This disgusting and unsanitary state of affairs we hope will be remedied next year by the construction of water-works.

An ordinance relating to vital statistics was enforced April 1 of the present year, from which date to October 1, six months, there have been 196 deaths reported, of which 129 were children under 5

years of age, and 70 were children under 1 year. The principal causes of death were as follows: scarlet fever, 29; diphtheria, 16; diseases of the brain and membranes, 26; diarrheal diseases, 16; phthisis pulmonalis, 14. Annual death-rate per 1,000 inhabitants, 13.06; ratio of deaths in children under 5 to all deaths, 61.22 per cent.

SANTA BARBARA, CAL.—Dr. C. B. Bates gives the following account: The city of Santa Barbara is in latitude 34° 26', longitude 119° 43', situated on the coast about 300 miles south of San Francisco. It is near the center of a valley having an average width of three miles and forty miles in length. On the north it is protected by the San Rafael range, from 300 to 700 feet high, and on the south by a chain of islands parallel to the coast, with an intervening channel twenty miles wide. No other place in the United States, near the sea, is similarly situated and protected. From latitude 50° to Point Conception, about forty miles north of this city, a current of cold water flows along the coast at the rate of two-thirds of a mile per hour; the temperature of this current off San Francisco is 52°. Between this cold current and the coast there is a warmer current, running northeast, having a temperature of 62°, and this modifies the climate here. From records extending over five years, we find a yearly average temperature of 61.208, the mean for January being 53.25, and for July 68.20. The relative humidity (saturation being 100) is 69.5 for the year, with a mean rainfall of 15.86 inches. The soil is a mixture of sand, clay, and alluvium, and dries rapidly after rains. The prevailing winds, from the north, do not affect this place, passing over the mountains and striking the ocean ten or fifteen miles from shore. The land and sea breezes are light. The water-supply is from mountain streams, springs, and wells; there are no bodies of fresh water near.

We have no general system of sewerage, but the natural surface-drainage is good. There is no malaria, and the general sanitary condition is excellent. A large proportion of the deaths is due to imported cases of consumption, the city being a place of resort for invalids from all parts of the United States, on account of the uniformity of temperature and the possibility of outdoor exercise at all seasons of the year. The principal occupations of the people are agriculture and grazing; bee-keeping has also become a profitable industry. The population is about 4,000, and the society better than that of most California towns, owing to the number of wealthy invalids who have made their homes here.

EVANSVILLE, IND.—Dr. J. W. Compton reports as follows:

This city is situated on the north bank of the Ohio River, two hundred miles from its confluence with the Mississippi at Cairo, Ill.

The ground upon which the city stands is generally level, but sufficiently undulating for efficient drainage; the river front of the city conforms to a regular curve of the river, making a crescent some four miles in length, and the city extends back from the river an average of one and a half miles, embracing in its corporate limits some 2,000 acres, and contains a population of 10,000, 3,000 of whom are colored people.

The river opposite the city is three-fourths of a mile in width, and is subject during extreme high water, to a perpendicular rise of 15 feet, when it overflows its banks and spreads over a large extent of bottom lands; malarial fevers are prevalent when frequent overflows occur.

The water is low in summer and fall. During this low water, and previous to the erection by the government, in 1876, of a wing dam from the opposite bank 1 mile above the city and extending back 1/2 way across the river, there would form in front of the city a sand-bar, containing perhaps 1,000 acres, destroying the landing for boats at the wharf, and the decomposing deposit of organic matter on this exposed surface would dry up by the heat of the sun and cause malarial fevers to prevail among the citizens living near the river front contiguous to this bar.

The effect of the dam was to throw the current of the river near the shore in front of the city, and to completely wash away this immense and troublesome bar; the result is that now, during the lowest water, there is a good harbor for boats the entire length of

the river front. The dam was constructed ostensibly for the purpose of improving the harbor, but as a sanitary measure it has furnished a running stream of pure water instead of an exposed bar, reeking with putrefaction, and now the citizens along the shore are exempt from the malarial influences from which they suffered previous to the erection of the dam.

The city has 12 miles of underground sewers of brick, from 6 feet to 15 inches in diameter and at an average depth of 12 feet below the surface, and 100 miles of surface-drained streets, principally draining into the sewers. The latter, with one exception, run at a right angle with and empty into the river. The exception is the Franklin street sewer running parallel with the river and emptying into Pigeon Creek some 500 yards above its entrance into the river. On the opposite bank of the creek, and between the mouth of this sewer and the Ohio River, is a stagnant pond, called Schweizer Pond, containing ten acres or more, which, in summer, becomes covered with a green scum, and upon examination is found reeking with filth and animalcule life. This pond is used as a harbor for thousands of saw logs and is kept dammed up for that purpose. It is also the receptacle for the filth and surface drainage of a considerable portion of the city, and the unusual prevalence of malarial fevers, in all their forms, in that neighborhood is proverbial and acknowledged by all who have any acquaintance with the facts. The board of health have been appealed to time and time again, and frequent petitions, by earnest and interested sufferers, have been presented to the city council; personal witnesses have been brought before them to prove that this pestilence-breeding iniquity was bringing sickness, suffering, and death unnecessarily to many of the inhabitants of that part of the city, and yet the city council and the board of health appear to lack either the power or the inclination to drain and abate the nuisance.

Pigeon Creek runs through the city near its lower third, and along its banks, inside of the city limits, are situated 5 large mills for sawing lumber. The thousands of logs, previous to being sawed into lumber at these mills, are tied in the waters of the creek or placed along its banks, and the putrid sap and decaying bark they contain often impart to the atmosphere a disagreeable odor, perhaps capable of causing disease. An approximate idea may be formed of the extent of this branch of industry, when it is estimated that 160,000 logs are annually sawed into lumber at these 5 mills alone.

While the underground sewers serve an excellent purpose in carrying off the surplus water during heavy rains, thus keeping the surface comparatively free to pedestrian and other travel, they are subject to serious objections in their present condition. They have four open inlets at the corners of each street crossing, and often, particularly in the night time, an offensive sewer gas escapes from these unprotected inlets, and fills the air around for a considerable distance with the most disagreeable and disgusting stench, to which I believe should be ascribed numerous cases of impaired health, as well as severe cases of dysentery and typhoid fever. The sewers are also subject to great abuse in becoming the receptacle of much filth and substances improper to be placed in them.

The council permits the water-closets from the residences along the line of the sewers to drain their contents into them. Many improper things, such as dead rats, cats, and chickens, are thrown into them, and should no heavy rain come soon to wash these away, they decompose, and with other offensive matters finding their way into the sewers fill them with pestilential odors which escape from the uncovered inlets and contaminate the surrounding atmosphere. I am informed by the health officer that 21 slaughter-houses within the city limits drain or empty their offal into the sewers; and this extraordinary privilege is granted by an ordinance of the common council or the charter.

The sanitary officers of the city consist of a board of health composed of five members, the mayor of the city as member *ex officio*, and four physicians, one of whom is secretary and health officer. They receive their appointment and derive their powers from the city charter and such laws as have been enacted by the common council for their government. They have the services of two members of the police force, who are denominated sanitary policemen, and of them is expected the enforcement of orders emanating from the board of health.

It is to the credit of the city, that a sufficient force is kept constantly upon the streets, under the control of a street director, cleaning out and hauling off the surface deposit from the streets and gutters, by which the drainage is kept free, and the streets clean. Conducive to the good health of the city is its admirable water supply. Situated in the extreme upper portion of the city is the Holly system of water works, established in 1870, containing 21 miles of supply pipe and engines with a capacity for throwing 3,000,000 gallons of water daily.

This water is drawn from the Ohio River far above the drains and sewers of the city and is as pure as river water can be 25 miles below contamination by the drains and sewers of any large city. A large number of the citizens have this water conducted into their houses and basins, and with garden, lawn, and street hose keep their premises in a good state of cleanliness. The other source of water supply is exclusively by underground cisterns, filled usually from the winter rains. These cisterns are plastered inside with cement and not often subject to drainage contamination. Wells are unknown as a source of water supply.

YONKERS, N. Y.—Dr. G. B. Balch, in transmitting a report of a sanitary survey of Yonkers, makes the following explanation of the sanitary condition of that city:

Yonkers is a city containing about 11,500 acres. Only about 900 acres are thickly settled; the rest is composed of farms, as a rule poorly cultivated. The surface of the whole city is very billy. The total population is about 20,000. About 18,500 of this population are settled upon the above-mentioned 900 acres. About one-third of this population are Irish or their immediate descendants. We have several large manufactories. Alexander Smith's Sons' carpet factory employs about 1,000 persons, and with additions now in process of erection about 600 more will be added to the number. The works are located in two places. The upper works take the raw material and prepare it for the looms, which are at the lower works. The upper works are located in a very malarial region; above them the river often overflows its banks, and the ground is always water-soaked. The natural conditions of Yonkers make it a healthy city. Consumption numbers many victims, and a large portion are among the Irish, whose homes, as a rule, are in a bad sanitary condition. When diphtheria prevailed here, in 1875 and 1876, it was mostly among the Irish; so in every epidemic the Irish have been the greatest sufferers, because they will mingle, and do not take the necessary measures for keeping clean. Some of the streets on which they live are very offensive from the filth they throw upon them.

McCOMB CITY, MISS.—Dr. D. W. Ford writes as follows, October 16, 1879:

McComb City is situated on the Chicago, Saint Louis and New Orleans Railroad, 105 miles from New Orleans, on the high pine belt of Southern Mississippi, at a height of 400 feet above the sea. Its altitude gives it an almost incessant sea-breeze, while its undulating surface and quick watershed afford no repository for miasmatic diseases. Population, 1,700; whites, 1,231; colored, 469. Had yellow fever last year; no epidemic or contagious disease this year. Our prevailing disease is typho-malarial fever with a few cases of typhoid fever and bowel diseases, principally children under 10 years of age. The city has been kept in a fine sanitary condition until very recently, but owing to the exhausted condition of the city treasury the work has been abandoned. The water supply is from wells 50 to 70 feet deep. Deaths for the month of September, 5.

MATANZAS, CUBA.—Medical Inspector S. Robinson, United States Navy, forwards a report for the month of August, 1879:

In a population estimated at 37,264 there were 103 deaths, giving an annual rate of 33.1 per 1,000. The diseases specified are, small-pox, 40 cases, 22 deaths; typhoid fever, 29 cases, 3 deaths; yellow fever, 20 cases, 6 deaths. Mean barometer, 30.10 inches; mean temperature, 66°. Sanitary condition of the town, "moderately good."

MORGAN CITY is reported free from fever, October 25; Berwick nearly so; still a few cases at Bayou Beuf, and Centreville; none in New Orleans.

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National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, NOVEMBER 8, 1879.

[No. 19.]

CIRCULAR NO. 9.

INSTRUCTIONS FOR THE CARE OF VESSELS IN QUARANTINE.—During the past season the National Board of Health has maintained a system of inspection of the quarantine establishments of the United States, with a view to determine their effectiveness and to encourage needed reforms. The result of these inspections has been to awaken a lively interest among health officers in all the details of management of quarantine, which cannot but lead to important reforms in practice. One of the most noticeable facts in the reports of inspectors is the diversity of methods of dealing with infected ships. In general, vessels are not treated with that dispatch which both commerce and proper sanitary care demand, nor are cleansing and disinfection practiced with the precision which insures the greatest success. With a view to furnish practical information on this subject, and to secure as far as possible a uniform system of efficient quarantine management, the National Board of Health requested Dr. S. O. VANDERPOEL, health officer for the port of New York, to prepare a circular of instruction for inspecting, cleansing, and disinfecting a ship. The quarantine of New York City is known to be most satisfactory, both as regards its relations to commerce and to the prevention of the introduction of contagious and infectious diseases from foreign ports. It may therefore safely be asserted that the following scheme, kindly prepared by Dr. VANDERPOEL, embodies the latest conclusions of science and experience as to the best administration of maritime quarantine.

A vessel from an infected or suspected port should, on arrival at the boarding station, be detained at least forty-eight hours for inspection and preliminary purification.

1. Inspection. Although access is had to the log-book, bill of health, and statement of the officers, there is an intuitive disposition to conceal slight ailments, or it may be make imperfect representations. A delay of two days, during which the vessel is visited several times by the health officer, reveals any concealed facts, and makes him conversant with the officers and crew.

2. Preliminary purification. It is customary to discharge the crew before breaking cargo. The time of this temporary detention is occupied in the washing of all their clothing and dunnage, the scraping, scouring, and thorough cleaning of fore-castle and cabin, the opening of hatches and ventilation of every accessible part of the ship, the pumping out of bilge water; if filthy, the pumping in of fresh, until that pumped out is clean. All accessible parts of the vessel should be fumigated at least twice with chlorine or sulphur. Chlorine should be used in the hatchways of the hold of the vessel, because there would be risk in using sulphur while the cargo is still in on account of the fire necessary.

In the fore-castle and cabin, after the cleansing is completed, two fumigations of sulphur should be used extending each over a period of twelve hours. It is almost unnecessary to add that any sick on the vessel are promptly removed to hospital.

Passengers should make five days from an infected port before leaving the vessel. Should sickness occur during that period, it must rest with the health officer to decide whether the particular case was infected from the shore or the vessel. If from the former the passengers may leave at the expiration of five days from port;

if from the latter they should be kept under observation until five days since the last case has elapsed. Baggage should be opened in a suitable compartment, and fumigated for twelve hours.

The preliminary purification having been satisfactorily performed, the vessel proceeds to the lighterage ground and the cargo is at once removed.

Stevedores and coopers must reside in quarantine. During the season for discharge of vessels they are not allowed to leave until five days have elapsed since they were at work. Owners of lighters engaged in the transportation of the cargo must send the names and residence of the crew of the lighter to the quarantine office, together with a stipulation that the health officer shall be promptly informed of illness of any kind among them.

A police patrol day and night is maintained—

1. To prevent any person in quarantine from leaving.

2. To exclude all not engaged in legitimate duties from access.

3. To keep the record of all lighters coming and leaving, and deliver the necessary permits.

4. To superintend the details of the final cleaning and purification. After the discharge of the cargo, the process of purification is as follows:

The stevedores, who have discharged the cargo, should also complete the cleaning. They go into the hold with brooms to scrub; the force-pump and hose in the meanwhile carry water to every part. This process must continue until the deck-pump throws out water as pure as that which enters.

It was at one time believed that when this was accomplished the vessel was clean. Experience has shown otherwise. The deck-pump does not reach the bottom by two or three inches, so that there is still a space which extends over the whole length of the vessel in the bilge which admits of a large deposit of filth and contaminated material.

Theoretically there should be lumber holes under each frame, which would allow all liquids and filth to be carried to the pump; practically this is seldom the case, so that while the vessel is apparently clean the space between the outer covering of the frames and the inner sheathing may be full.

It is therefore essential that one or two streaks of planking be removed the whole length on both sides of the keelsons. This is often a work of difficulty, for in many American bottoms no provision is made either for lumber holes or removal of lumber planking. Copper bolts are used, which pass through inner sheathing, frames, and outer planking, requiring the work of a ship carpenter two or three days to remove this single line of planking. After removal the greatest diversity of construction is noticed. In some vessels the frames are so close together that the fingers cannot be passed between; from this the distance between ranges in others up to twelve or fourteen inches.

Iron steamers offer their peculiarities. In all the English steamers examined there were large lumber holes under each frame, which allowed free course for filth and fluids. In American it is otherwise. The lumber holes are in most cases three inches from the flooring, thus allowing a very large surface for filth accumulation, and renders this part of the cleansing process tedious and slow; practically the difficulty with iron vessels is overcome after cleaning by filling all the space up to the lumber holes with cement; this, too, prevents the corrosion which the filth of sugar cargoes occasions to the bolts and plates of the bottom.

To complete the cleaning between the frames a small hand-pump must be used between each, followed by a small hand coal-shovel, and it need be broom and cold water.

When every portion is made absolutely clean, the vessel is ready for disinfection and fumigation.

For the first, for a steamer one hundred pounds of sulphur, iron dissolved in as many gallons of sea-water, less in proportion to the size of the vessel; this is thrown between each frame so as to reach every part of the bilge; the vessel is left open in every part to dry. When dry, a large fumigation of chlorine is put down each hatch into the hold, and all parts closed. After an interval of four hours the hatches are opened, and from fifty to one hundred pounds of sulphur, according to the size of the vessel, are fired and the hatches closed for twenty-four hours. Upon passenger steamers careful supervision must be had of all the sheets, bedding, table-cloths, napkins, and towels before being sent ashore to be washed.

All the above articles should be dipped in a large cauldron contain-

ing a boiling solution of sulph. zinc and water, and wrung out and dried. They are then allowed to be sent to the laundry.

After the satisfactory completion of the above measures pratique is given the vessel.

SMALL-POX.

The mortality tables of the BULLETIN have for many weeks presented the interesting fact that in more than one hundred of the largest cities of the United States, containing an aggregate population of over eight millions, not a death of a citizen from small-pox has been reported. This is one of the diseases that cannot escape detection and correct diagnosis when it proves fatal. The returns may, therefore, be regarded as entirely reliable in regard to this disease in all cities requiring burial permits. A reference to the tables of mortality in foreign cities, compiled from the weekly consular reports, which are now made with great care and accuracy, shows that small-pox is prevailing in various parts of the world, and in certain places with great severity. This is especially the case in some Canadian towns, in dangerous proximity to and in immediate communication with the United States. Considering the certainty with which this most loathsome of all the contagious diseases may be prevented, the present exemption of the population of the United States from its presence, its ravages in Montreal, and the unrestricted intercourse between that city and the towns along our borders, emphasize the arguments heretofore advanced in favor of international co-operation in an effort to exterminate contagions and infectious diseases. If the authorities of Canada and of the United States were vigorously enforcing the well known preventive measures against small-pox, that disease would never spread beyond its present limits. It is gratifying to notice, as appears from a communication in another column, that this subject is attracting the attention of thoughtful men. It deserves discussion in every medical circle, and the combined sentiment of the profession should be brought to bear upon the general government to secure an international sanitary conference.

THE act constituting the National Board of Health, approved March 3, 1879, makes it the duty of the Board to report to Congress at its next session a plan for a national public health organization, which plan shall be prepared after consultation with the principal sanitary organizations and sanitarians of the several States and of the United States, special attention being given to the subject of quarantine, both maritime and inland, and especially as to the relation which should be established between the State or local systems of quarantine and the national quarantine system.

By means of circulars, lists of questions, and correspondence, the National Board has already taken steps to collect the opinions of the principal sanitarians and sanitary organizations of this country upon the points with regard to which it is to report to Congress, and it desires to take advantage of the meeting of the American Public Health Association at Nashville, Tenn., November 18-22, 1879, to consult still further with those most familiar

with and interested in this subject. To this end the National Board of Health will meet at Nashville, November 18-22, and it is hoped that all sides of the very important questions upon which it is to report will be fully presented, either in the discussions before the American Public Health Association or in the form of special communications to the Board. These questions may be summed up as follows:

1. Is it desirable that there should be in the United States at the present time any form of a national public health organization?

2. If this question be answered in the affirmative, what should be the form and duties of such organization, exclusive of all matters pertaining to quarantine?

3. Is it desirable that there shall be any national supervision of quarantine, either maritime or inland or both?

4. If such system of supervision be considered expedient, how far should it extend, and should it be carried on by the national public health organization or by some other department of the government?

5. What are the methods by which the national supervision proposed can best be carried out in order to secure the greatest amount of protection with the least possible interference with travel and traffic?

The National Board of Health invites all persons interested in these questions to be present at and contribute to the discussion which it is hoped will be held upon them by the American Public Health Association; and it will also be pleased to receive written communications from those who have definite information or opinions to communicate. Such written communications, if made brief and clear, will be presented to Congress in connection with its report, and will receive careful consideration.

It especially desires to obtain the opinions of those who have had practical experience in public sanitary work in connection with State and local boards of health, and also of the owners, agents, captains, and managers of the principal Atlantic steamship lines, and also of the railroad and steamboat lines of this country, and more especially of the Mississippi Valley.

NATIONAL BOARD OF HEALTH,

Washington, D. C., Nov. 1, 1879.

To the Sanitarians of the United States:

By the act establishing a National Board of Health, it is made the duty of the Board to report to Congress, at its next session, a plan for a national public health organization, which plan shall be prepared after consultation with the principal sanitary organizations and the sanitarians of the several States of the United States, special attention being given to the subject of quarantine, both maritime and inland, and especially as to regulations which should be established between State or local systems of quarantine and a national quarantine system.

In order to fulfill this requirement, the National Board of Health has requested those interested in the subject to communicate their views to the Board, and now respectfully invites members of State and local boards of health, and sanitarians generally, to meet with it in conference in the city of Nashville, Tenn., during the 18th-22d November meeting of the American Health Public Association.

J. L. CABELL,

President National Board of Health.

T. J. TURNER,

Secretary National Board of Health.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Total deaths.	Weekly mean.	Barometer.	Thermometer.
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.				
Vancouver's Island	Victoria	3,500	Oct. 1879.																
Canada	Montreal	135,000	Oct. 25													1	11.9	29.50	54.0
Do	Kingston	16,000	Oct. 25													19	18.9	30.12	44.3
Do	St. John's	5,000	Oct. 25													4	9.8	30.29	45.4
Do	Charlottetown	12,000	Oct. 25													1	10.4		45.0
New Brunswick	St. John	46,000	Oct. 18													1	10.4	29.93	42.9
Bermuda Islands	Hamilton	11,867	Oct. 21													15	17.0	29.98	48.9
Do	do	14,867	Oct. 28													3	10.5	30.15	73.6
Cuba	Havana	135,437	Oct. 18													121	32.3	29.81	81.0
Do	Cienfuegos	20,218	Oct. 22													1	30.1	29.98	83.0
Haiti	Aux Cayes	8,000	Oct. 1													1	30.1	29.98	83.0
Jamaica	Kingston	40,000	Oct. 11															30.13	80.0
Barbados	Bridgetown	21,363	Sept. 27															30.13	81.0
Do	do	21,363	Oct. 4															30.10	84.5
Mexico	Matamoros	16,000	Oct. 18															30.10	84.5
Honduras	Ruatan	1,000	Sept. 27															30.10	82.0
Do	do	4,000	Oct. 4															30.10	81.0
Brazil	Pernambuco	126,575	Sept. 16															30.10	81.0
Do	do	126,575	Sept. 22															30.10	81.0
Do	do	126,575	Sept. 30															30.10	81.0
Tenerife	Santa Cruz	16,610	Sept. 13															30.10	81.0
Do	do	16,610	Sept. 20															30.10	81.0
Do	do	16,610	Sept. 27															30.10	81.0
Ireland	Queenstown	10,000	Oct. 11															30.10	81.0
Do	do	10,000	Oct. 18															30.10	81.0
Do	Londonderry	31,884	Oct. 18															30.10	81.0
Scotland	Glasgow	578,156	Oct. 11															30.10	81.0
Do	Leith	57,000	Oct. 11															30.10	81.0
Do	do	57,000	Oct. 18															30.10	81.0
England	Liverpool	538,348	Sept. 20															30.10	81.0
Do	Sheffield	257,138	Sept. 20															30.10	81.0
Do	Bristol	257,138	Oct. 4															30.10	81.0
Do	London	3,620,868	Oct. 11															30.10	81.0
France	Rouen	104,902	Oct. 18															30.10	81.0
Do	Toulon	75,000	Oct. 12															30.10	81.0
Do	Lyons	302,835	Oct. 11															30.10	81.0
Do	Zurich	22,008	Oct. 11															30.10	81.0
Switzerland	Amsterdam	308,952	Oct. 11															30.10	81.0
Holland	Rotterdam	117,000	Oct. 18															30.10	81.0
Belgium	Antwerp	109,081	Oct. 11															30.10	81.0
Saxony	Leipzig	115,719	Oct. 11															30.10	81.0
Do	do	115,719	Oct. 11															30.10	81.0
Germany	Frankfurt	126,000	Oct. 4															30.10	81.0
Do	Bremen	126,000	Oct. 11															30.10	81.0
Do	Berlin	1,062,500	Oct. 4															30.10	81.0
Do	Mannheim	1,062,500	Oct. 11															30.10	81.0
Do	Bielefeld	126,000	Oct. 4															30.10	81.0
Denmark	Copenhagen	225,000	Oct. 7															30.10	81.0
Italy	Leghorn	57,410	Oct. 18															30.10	81.0
Do	Palermo	219,375	Sept. 25															30.10	81.0
Do	Venice	111,218	Sept. 6															30.10	81.0
Do	do	111,218	Sept. 13															30.10	81.0
Do	do	111,218	Sept. 20															30.10	81.0
Do	do	111,218	Sept. 27															30.10	81.0
Austria	Trieste	127,873	Oct. 11															30.10	81.0
Do	Buda Pesth	369,765	Sept. 27															30.10	81.0
Do	do	369,765	Oct. 4															30.10	81.0
Russian Poland	Warsaw	336,707	Oct. 4															30.10	81.0
Sweden	Stockholm	169,129	Oct. 4															30.10	81.0
Spain	Gibraltar	19,000	Sept. 27															30.10	81.0
Do	do	19,000	Oct. 11															30.10	81.0
Do	Malaga	118,822	Oct. 11															30.10	81.0
Do	do	118,822	Oct. 18															30.10	81.0
Morocco	Tangier	15,000	Aug. 15															30.10	81.0
Do	do	15,000	Aug. 20															30.10	81.0
Do	do	15,000	Sept. 30															30.10	81.0
Algeria	Oran	6,400	Oct. 11															30.10	81.0
Do	Algiers	68,958	Sept. 14															30.10	81.0
Do	do	68,958	Sept. 21															30.10	81.0
Do	do	68,958	Sept. 28															30.10	81.0
Barbary	Tripoli	20,000	Oct. 4															30.10	81.0
Egypt	Port Said	9,000	Oct. 4															30.10	81.0
Do	do	9,000	Oct. 11															30.10	81.0
Asia Minor	Smyrna	24,000	Oct. 9															30.10	81.0
St. Helena	Jamaica Town	6,240	Sept. 13															30.10	81.0
Do	do	6,240	Sept. 20															30.10	81.0
Do	do	6,240	Sept. 27															30.10	81.0

* In the table in No. 1 of the BULLETIN, read *P. malarie* in place of *P. m.*

Report of mortality in cities of the United States for the week ending October 25, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Me	Bangor	20,000	2	9	23.5				2		1	1							
N. H.	Concord	14,000	3	11	11.2														
Mass	Boston	375,000	54	141	19.6		35	13	5		7	1			4		3	2	
	Cambridge	50,000	5	18	18.8		6												
	New Bedford	27,000	2	12	23.2			1	3							1			
	Newburyport	13,800	1	6	23.3														
	Marblehead	7,500	1	1	7.0														
	Plymouth	6,334	1	3	24.7		1				1						1		
	Lawrence	40,000	6	14	18.2		3	3	1								1		
	Brockton	12,000	3	12.0			1												
	Pittsfield			3															
	Milford	10,000	1	4	20.8		1	1	1										
	Somerville	33,000	3	10	23.7			1											
R. I.	Providence	101,500	32	88	23.7		6	1							16				
Conn	New Haven	60,000	7	17	14.8		1	3											
	Norwich	17,000	3	6	18.4		1												
Vt	Burlington	16,500	3	4	12.6														
N. Y.	New York	1,097,563	224	509	23.2	1	107	37	15	3	55	10		3	9		9	6	
	Brooklyn	264,448	85	190	17.6		27	10	23		17	1		1			1		
	Poughkeepsie	20,000	4	10.4			1												
	Newburgh	17,568	1	3	8.9														
	Hudson	8,754																	
	Binghamton	18,000	4	11.6			1		1		1								
	Utica	35,000	7	10.4			3												
	Rochester	90,000	9	24	13.9			3			1								
N. J.	Hudson County	124,000	35	13	10.5		9		4		9	1			6				
	Newark	132,000	23	47	18.6		6	5	1		6	2					3		
Penn	Philadelphia	901,380	67	248	14.4		54	6	4	2	12	1		1	3		3		
	Erie	30,000	2	13.5		1	1												
	Reading	40,110	7	15	10.5		2												
	Pittsburg	145,000	27	45	16.2		2	7	1	5					3		2	1	
Del	Wilmington	41,000	8	14	16.6		2		1										
Md	Baltimore	400,000	65	131	17.1		11	27	16		4	1		1	8		3	2	
	District of Columbia	150,000	2	12	21.8						2	7	2						
Va.	Norfolk	24,000	4	8	17.3		2	1	1			1							
	Richmond	20,000	14	35	22.8		8	1	1						3		1		
N. C.	Newbern	7,500	2	15															
S. C.	Charleston	57,000	9	13	13.7		3	2											
Ga.	Savannah	32,656	12	21	33.5		3	1	2		3	2					1		
	Augusta	26,874	10	17	33.0		3	1	1		1						1		
	Atlanta	41,548	4	12	13.4		1	1	1		1						1		
	Bonnie	5,000		1	20.4														
Fla	Pensacola	8,500	2	2	12.3		1	1	1										
	Jacksonville	10,000	2	2	10.4							1							
Ala.	Mobile	40,000	8	16	20.9							2							
Miss	Columbus	5,000																	
La	New Orleans	210,000	39	26	23.9		16	14	4		3	6							3
	Shreveport	7,000	6	8	59.6		1					1							
Tex.	Austin	15,500	2	4	13.5														
	San Antonio	22,000	5	8	18.6		1	2											
Ark	Little Rock	22,000	1	3	8.1		1												
Tenn	Nashville	27,083	3	8	13.4			1											
Ky.	Louisville	175,000	21	41	12.4		2	5	3		2		1						
W. Va	Wheeling	35,000	6	11	20.4			3	4										
Ohio	Cincinnati	280,000	35	74	13.8		10	6	4		5			1	1			1	
	Cleveland	175,000	20	41	12.2		1	2	1	7	2	1		1	2			1	
	Gallipolis	5,500																	
	Dayton	30,000	7	11	14.7		2				3						1		
Mich	Port Huron	8,100																	
Ind	Evansville	37,500	2	6	8.3		1										1		
	Indianapolis	97,000	8	18	12.2		2	2			1	1					1		
	Richmond	14,000		2	7.3							2							
Ill	Chicago	537,624	75	179	17.1		19	3	16		10	3		1	10		5		
	Peoria	40,000	4	5	12.5		1		1										
	Quincy	35,000	2	8	11.1		1												
	Ancona	14,550	1	3	10.7							1					1	1	
Wis.	Milwaukee	124,000	19	35	14.7		1	2	2		7			2					
Minn	Saint Paul	51,000	6	8	8.2		1		1										
	Minneapolis	32,000	4	11	10.0														
Iowa	Burlington	30,000	2	2	3.5		1				1								
	Des Moines	30,000	2	4	7.0														
	Kewauke	15,000	1	2	7.0			1			1						1		
Mo	St. Louis	500,000	36	88	12.3		12	3	4		1	5	3						
Nebr.	Omaha	30,000	1	3	5.2		1					1							
Utah	Salt Lake City	25,000	2	9	18.8		1	3	1										
Cal	San Francisco	300,000	11	97	16.3		1	11	2		11	1					1	2	
	Sacramento	25,000	4	11	12.2										3				
	Vallejo	5,000	2	4	51.7		1				2								
Totals		8,029,394	1,099	2,631	17.1	15	408	161	164	7	219	45		13	69	2	58	21	3

* District of Columbia has 114,000 white, 56,000 colored; deaths, 36 white, 35 colored. Rate per 1,000, white, 16.5; colored, 32.6. Norfolk has 14,087 white, 9,913 colored; deaths, 4 white, 4 colored. Rate per 1,000, white, 14.7; colored, 14.7. Savannah has 17,473 white, 15,164 colored; deaths, 9 white, 12 colored. Rate per 1,000, white, 26.5; colored, 41.3. Augusta has 15,546 white, 11,628 colored; deaths, 6 white, 11 colored. Rate per 1,000, white, 20.5; colored, 49.1. Atlanta has 25,373 white, 16,175 colored; deaths, 5 white, 7 colored. Rate per 1,000, white, 10.3; colored, 23.6. New Orleans has 153,000 white, 55,000 colored; deaths, 65 white, 31 colored. Rate per 1,000, white, 21.9; colored, 20.4. Nashville has 17,855 white, 5,500 colored; deaths, 6 white, 2 colored. Rate per 1,000, white, 17.8; colored, 11.0.

† The deaths from small-pox were among Mexicans.

The following reports, for the week ending October 25, are from places requiring burial permits, and having less than 5,000 population:

Bridgewater, Mass., population 3,900; no deaths. Brunswick, Ga., 3,000; consumption, 1; diarrhoea, 1; total deaths, 3; under 5 years, 2. Edgartown, Mass., 1,700; one death. Franklin, Tenn., 1,800; one death. Franklin, Ind., 1,400; diarrhoea, 1. Murfreesborough, Tenn., 4,000; one death.

The following reports, for the week ending October 25, are from places in which burial permits are not required:

Allegheny, Pa., population 75,000; deaths, 21; under 5 years, 10; consumption, 3; diphtheria, 9; lung diseases, 3; typhoid fever, 1. Bath, Me., 10,000; deaths, 2; consumption, 1. Battle Creek, Mich., 7,500; one death, accident. Belfast, Me., 5,278; no deaths. Carrollton, Miss., 600; no deaths. Davenport, Iowa, 25,000; deaths, 8; under 5 years, 2; diphtheria, 2; measles, 2; typhoid fever, 1; pneumonia, 1. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. Greenwood, Miss., 400; no deaths. Jackson, Miss., 5,000; old age, 1. Lansing, Mich., 10,000; typhoid fever, 1. Louisiana, Mo., 5,000; deaths, 2; typhoid fever, 1. Mansfield, Ohio, 11,000; one death. Monmouth, Ill., 6,000; consumption, 1; diarrhoea, 1; deaths, 3; under 5 years, 1. Monroe, Mich., 5,846; consumption, 1. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; one death. Niles, Mich., 4,630; consumption, 1. Painesville, Ohio, 5,000; consumption, 1. Pass Christian, Miss., 4,000; no deaths. Ripley, Miss., 1,000; no deaths. Shelbyville, Tenn., 2,000; no deaths. Starkville, Miss., 1,163; no deaths. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 4,000; deaths, 2; under 5 years, 1; pneumonia, 1; typhoid fever, 1. Waterbury, Conn., 16,000; deaths, 4; pneumonia, 1. Wadena, Minn., 11,746; no deaths. Youngstown, Ohio, 17,000; deaths, 4; croup, 1, under 5 years.

CONSULAR FEES.

THE attention of consuls, consular agents, &c., is respectfully called to the following letter of the Hon. H. F. French, Assistant Secretary of the Treasury, addressed to the President of the National Board of Health:

This department is in receipt of your letter of the 14th ultimo, in which, by direction of the executive committee of your Board, you inclose a copy of a communication from Mr. A. B. Wood, chief of the consular bureau of the State Department, accompanied by a printed copy of rules and regulations, made by your Board and approved by the President, to be used and complied with by vessels in foreign ports, under the authority of the act approved June 2, 1879.

The object of submitting these rules and regulations appears to be to secure action on the part of this department in fixing fees for certain services therein required. An examination of the act in question shows that the only fee which the statute requires in terms to be fixed by this department is that under section 6, in connection with the necessary expenses in placing vessels in proper sanitary condition. Under this section the regulations provide that the consular officers in foreign ports shall, upon the request of the owner, agent, or master, cause an inspection of every ship or vessel bound to any port of the United States, and upon such inspection issue the bill of health required by these regulations. In regard to this fee, it may be stated that section 1745 of the Revised Statutes directs that the President shall prescribe from time to time the rates or tariffs of fees to be charged for the official service of consular officers abroad.

Under the authority of this section, the President has fixed, and the State Department promulgated in its regulations of 1-71, p. 77, a consular fee for a bill of health at \$2.50. This fee is to be exacted by the consul and by him paid into the Treasury as part of the receipts of his office; and it would not seem that a second fee is necessary for the bill of health required to be given by the regulations issued by the Board, except that in cases arising under paragraph 12 of the said regulations, where the departure of the vessel is delayed beyond the twenty-four hours therein specified, an addition to such fee of 50 per cent. may properly be made. The regular fee for the bill of health is therefore fixed at \$2.50. The actual expenses incurred in placing the vessel in proper sanitary condition will, of course, vary with the circumstances of each case, and are to be paid by the ship-owners or masters; and it would not seem that

any scale of prices for such services can be established. For the inspection and report under paragraph 11 of said regulations, a fee of 25 cents is hereby fixed for each person examined by the medical officer or physician selected for the purpose.

These are all the fees which it seems to this department are required to be fixed by the authority of these regulations.

Very respectfully,

H. F. FRENCH,
Assistant Secretary.

ABSTRACTS FROM CONSULAR REPORTS.

LISBON, PORTUGAL.—The Department of State transmits to the National Board of Health a letter from H. W. Diman, United States consul, inclosing a copy and translation of an official decree removing the quarantine established July 31 against certain Atlantic ports of the United States.

Mr. Diman states that since July 31 thirty vessels, arriving from New Orleans and ports of the Gulf of Mexico, have been quarantined from five to eight days at Lisbon. Ten of these vessels were bound to Oporto, and touching there first, were sent a distance of about 200 miles to perform the above-named quarantine, discharge a part of cargo, submit to fumigation, &c. It is stated that no vessel ordered away from Oporto has returned to that place within fifteen days. Considering that all these vessels left perfectly healthy ports, and that all had clean bills of health from the Portuguese consuls at those ports, the complaints of the masters and owners seem to have been well grounded. The consul is convinced of the importance of some effective international plan for reforming the present oppressive system of quarantine.

The decree, as published in the *Diário de Governo*, of September 29, is as follows:

From official information and from the report of the consulting board of health, the Atlantic ports of the United States of America are hereby declared free of yellow fever from and after the 3d of August last. The ports of Memphis and New Orleans are still considered as *infected*, and all other ports of the Gulf of Mexico, whether belonging to the United States or not, as *suspect*.

Ministry of the Interior.

LUIZ ANTONIO NOGUEIRA.

GUADALOUPE.—United States Consul Charles Bartlett, sends the following communication to the National Board of Health:

Pointe à Pitre is situated on the westernmost part of that portion of Guadeloupe named Grande Terre, and is the principal port and mercantile emporium of Guadeloupe. It is built on low, marshy ground. Around the city proper has been dug a canal, named Canal Vatable, in honor of the governor under whose administration it was dug. The ebb and flow of the tide in the harbor, never exceeding one foot and a half, causes the water in this canal to remain stagnant and to exhale a very offensive stench, making its neighborhood very unhealthy. The land beyond this canal is low and boggy and almost always overflowed from the drainings of surrounding hillsides, and more especially so during the rainy season. The majority, nevertheless, in view to fill up these bogs, has cuts which daily take the garbage and other cleanings from the city proper to these places; these cleanings, being mostly of a vegetable nature, thrown into and rotting in these small swamps, generate effluvia which I consider deleterious; so much so that I have noticed that at least three-fourths of the deaths on record occur in that neighborhood. The city proper, I must state, is more healthy, and was, in past years, filled up with stones and earth. The streets are all macadamized and are carefully and continually kept under repairs; are very dry, are swept every morning, their gutters washed and cleaned, and all the offal which

is ordered to be deposited in front of each tenement taken away by the town carts to these bogs or swamps. All the household excrements of the city are taken away morning and evening to the quays and thrown into the harbor. This improper usage is assuredly conducive to unhealthiness, as the smell arising therefrom is very offensive.

In the vicinity of the canal and close by the swamps reside the poorer class of people, and they are mostly sufferers from malarial fever, bilious and remittent fevers. I am, however, assured that there are no contagious or epidemic diseases here, having closely watched the sanitary state of the island under the impression that I might be called upon to report thereon. Whenever any one is questioned as to the cause of death, the invariable answer is: from fever, either bilious or intermittent. I myself have had fever twice during my stay of nearly 15 months here, but the spells were of short duration. Quinine, refreshing beverages, and, above all, a bout of four days to Matonba, restored me completely. Matonba is the resort during the sickly season of the better sort of people who can afford to go there, the most of them owning a villa there. This Matonba is situated in Guadalupe proper, high up on the western slopes of a high range of mountains, over which towers the highest, named "Soufriers," a volcano not yet extinct. Below Matonba, and in the same commune of St. Claude, the government has erected fine buildings, barracks, hospitals, and a residence for the governor, where, on account of the salubrity of the air, he mostly resides. The garrison, at the approach of the hurricane months, or warm season, is sent to this place, only retaining in the towns those required for service, but alternately removing them to and from this place, called Camp Jacob, formed under the governorship of General Jacob, at an altitude of nearly nine hundred meters (2,953 feet) above the level of the sea.

TOKYO, JAPAN.—United States Minister Hon. John A. Bingham sends the following communication to the Department of State under date of September 13:

By the published returns it appears that from the 22d of April to the 6th of September, 1879, there have been 126,145 cases of cholera and 68,336 deaths; at this date 40,419 persons are reported as still suffering with the disease. Cholera never appeared in Japan before the year 1716, and it recurred in 1830, 1877, 1878, and 1879. The foreign traders here were therefore wrong in asserting that the disease was one originating in the country, occurring here every year, and in opposing and denying the authority of this government to establish a quarantine.

This country has never suffered so severely from any other disease as from Asiatic cholera on each occasion of its appearance. The opposition of the foreign traders to quarantine measures has been weakened by the recent death of six of their number in Yokohama, and by the fact that no foreigner attacked by the disease has survived. His excellency Mr. Ito, minister of the home department, regards the pestilence as subsiding, and will furnish full returns concerning it.

Permit me to say, that your instructions of last year, approving my action at that time in asserting the right of this government to enforce a quarantine against the importation of this pestilence under our flag, have, I have reason to say, greatly impressed the emperor and people, and given them a new assurance of the good will of our government.

BOMBAY, INDIA.—United States Consul B. F. Farnham sends a report for the first three months of 1879. There were 5,855 deaths, 3,357 births, and 227 still-born. The deaths from small-pox were 163; measles, 28; diphtheria, 3; croup, 16; whooping cough, 18; typhoid fever, 1; cholera, 50; diarrhoea, 312; dysentery, 152; malarial fevers, 2,109; mean humidity, 68; mean temperature, 77.6. The population is not given.

BUDA PESTH, HUNGARY.—In the report of mortality for the week ending September 27, Consul E. J. Hall notes that of 192 deaths in a population of 309,700, 101 were under 5 years of age; the mortality among children is in great part caused by diarrhoeal diseases, due to bad quality of the water used.

SMYRNA, ASIA MINOR.—Dr. von Eichstöff states that it is not possible in that place to obtain accurate vital or mortuary statistics. A contagious form of ophthalmia prevails there, but the place has lately been unusually free from zymotic diseases.

SABANILLA, UNITED STATES OF COLOMBIA.—The Department of State transmits a report from the United States consul at the above-named place, stating that the reports of epidemic small-pox had been greatly exaggerated. Only a few isolated cases remained October 30.

SANTA CRUZ, TENERIFFE.—Consul W. H. Dabney reports 7 cases and 2 deaths from diphtheria for the week ending October 4, and remarks that the disease was previously almost unknown on the island.

LA GUAYRA, VENEZUELA.—United States Consul J. E. Hert sends a report for the month of September, and states that the sanitary condition of the town is not good on account of defective drainage. Yellow fever occasionally appears, and 4 cases and 3 deaths are noted for the month. No deaths recorded from other causes, and population not given. Mean temperature 90° (2).

HAVANA, CUBA.—Advices to October 25 state that there were 13 deaths from yellow fever in the city during the week ending October 24. Number of cases remaining estimated at 10; the mortality in proportion to the number of cases has been small during the month of October, a result ascribed to uniformity of temperature.

PORT AU PRINCE, HAYTI.—Under date of October 6, Consul A. Bird writes that there has been a marked improvement in the general health of this place and its dependencies, excepting a report (not official) of an outbreak of yellow fever at Cape Haytien. Good health prevails, according to official reports, at Miragoâne, Petit Goâve, Jérémie, Aux Cayes, Jacmel, St. Marc, and Port de Paix.

SANTA MARTHA, UNITED STATES OF COLOMBIA.—United States Consular Agent T. Huysman reports as follows, October 6:

The steamer *Alca*, Williams, master, arrived at this port September 27, from Liverpool, and left the next day for New York, while this port is infected with yellow and typhoid fevers. The population of Santa Martha is about 2,500; the deaths, as far as I can judge, are from 35 to 40 per week, but as the dead are buried at all hours of the night and day, it is not possible to obtain an exact account. One company of Colombian troops were sent to Gairo, 9 miles distant, for their health; they lost 25 men in 14 days. There are few foreigners in the place; the natives are idle and unclean in their habits, and seem to rely on dogs and hogs to act as scavengers. Pools of stagnant water exist in and around the city, but the water supply, from the river Mansanares, is very good.

GUENÉ, BELGIUM.—United States Vice-Consul Lefebvre reports, for the month of September, 1879, 314 deaths and 14 still-births, in a population estimated at 130,100, giving an annual rate of 31.7 per 1,000. The deaths include 167 males, 177 females; 208 under 6 years; 3 from 6 to 10; 6 from 10 to 15; 19 from 15 to 30; 22 from 30 to 50; 46 from 50 to 70; 10 over 70. Legitimate births, 354; 182 male and 172 female. Illegitimate, 44; male, 16; female, 28; total births, 398. There were 61 marriages and 1 divorce.

GUAYAQUIL, ECUADOR.—United States Consul Alex. McLean sends the following additional report on the prevalence of small-pox:

Since the government obtained a supply of virus, the school children have been generally vaccinated; but no effort has been made to prevent people from crowding to the funerals of those who die of small-pox, nor are infected houses fumigated. Official mortality returns are not made here, but from conversation with physicians I think there are not over 20 cases now in the city, and the disease is decreasing. There are about 400 patients in the hospitals, but no contagious disease, other than small-pox, exists here at present. Malarial fevers and dysentery are the prevailing diseases.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

SMALL-POX IN SAN ANTONIO, TEXAS.—Inspector Dr. JOHN H. POPE reports, October 26, 1879, as follows on the recent outbreak of small-pox in this place:

It is difficult to ascertain exactly the number of cases in the city. No "house to house" inspection has been made. In some instances the first time the case was reported was when the burial permit was asked for. It seems to be a difficult matter—indeed impossible—to induce the Mexicans to report small-pox or other disease existing in their families. Sometimes, for fear they will be found, parents will secretly take their children, who have small-pox, and hide them at another *house*, until they recover or die. This has been the means of spreading the disease during this year, in at least one instance. Vaccination of all the population has not been accomplished. The city has liberally provided virus, to place it within reach of all the paupers. The city physician has advertised that he would, without charge, vaccinate all who would come to him. Besides this the practicing physicians have used all their influence to induce their patrons to have their families vaccinated. But by all these means not more than half the people have been vaccinated and re-vaccinated; only a small proportion of the Mexicans have been vaccinated. They have no faith in its efficacy, and oppose it as useless. From the best of my information I am led to believe that the partial vaccination resorted to has had more influence than any one thing in checking the spread of the disease. Wherever isolation has been properly practiced the result has been entirely satisfactory.

The city physician's mortality report shows for the month, extending from August 26 to September 26: deaths from all causes 42; from small-pox 18. For the month ending October 26, the deaths from all causes were 43; from small-pox 16.

JEFFERSON, TENN.—Inspector Dr. A. P. Brown reports, October 25, that there had been two new frosts to date, but malarial fevers were very prevalent in that region.

FOREST CITY, ARK.—Inspector J. B. Cummings says, under date of October 22, that no new cases of yellow fever have appeared at this place for five days; he deems it safe to raise the quarantine and allow people to return to their houses, provided proper measures are taken to disinfect them.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

SMALL-POX.

PREVENTION OF ITS INTRODUCTION INTO UNINFECTED CITIES.

Dr. BUSHROD W. JAMES, of Philadelphia, writes as follows:

In looking over the BULLETIN of the National Board of Health, I find in the mortality reports of American cities an absence for several weeks of any deaths from small-pox, from which I infer that there is at present little or none existing in our country. Is it possible now for the National Board or our government to keep this dreaded disease out of the country by instituting proper quarantine or other requirements against variola for those who may have come from cities where it is prevailing, and the detention at proper quarantine sites of all exposed persons beyond the period of incubation or until vaccination shall have been performed and the characteristic genuine pustules have appeared? The destruction of all infected garments, bedding and clothing from the berths of vessels or sleeping-cars whenever a person known to have the disease has been using a berth should be required.

The mortality reports show the malady to be prevalent in New Brunswick, in Canada (Montreal), Cuba (Havana), Brazil (Pernambuco), England (London), France, &c. Now that our cities are free from this one disease why can we not keep it out? Why should we risk another such epidemic of it as occurred at Washington, Philadelphia, New York, Boston and other cities a few years ago? For

doubtless by this time there is plenty of new fuel for the disease to feed upon. If our new Board of Health can control yellow fever within special localities at or near where it originates, as has been done in and about Memphis this season, why not keep out altogether this disease, which in all probability will have to be imported to gain another foothold in the United States?

If any cases exist or arise in any of our cities, doubtless the National Board of Health is the proper authority to be made aware of the fact, and it should, I think, in conjunction and accord with local boards, be made aware of, follow up, and keep upon the track of every case; and whenever and wherever a case is developed, see that it is at once placed in a hospital, the locality of its discovery and tracings disinfected, the infected clothing burned, and all exposed persons vaccinated with reliable cow-pox virus, and then properly watched by the local medical inspector of the district.

Prevention of these contagious diseases is the proper mode of dealing with them, and when our government and the authorities of other nations wake up to the importance of an international code of quarantine laws, and by mutual consent establish rigid rules whereby epidemics and contagious diseases, as far as possible, are held from spreading beyond their place of origin, then we will be far on the road toward preventing these epidemics, and may be able to accomplish what I have for years advocated, the complete annihilation of some of the pestilential disorders.

SAVANNAH, GA.—Dr. J. C. Le Hardy writes as follows, October 22:

The city of Savannah is built on a sandy plain, some 14 miles northwest from the Atlantic Ocean, extending more than one mile along the south bank of the river and rising from 10 to 50 feet above low-water mark. This plain extends southward a distance of several miles. The city limits are comprised in a radius of about 14 miles from the center of the river front. On the north runs the ship channel of the Savannah River, some 200 yards wide, beyond which are islands, formerly cypress swamps, subject to overflow by spring tides, where they are used in cultivation of banked in. East and west sides, where they are subject to overflow by the tides, but now protected by embankments and kept very well drained by the city authorities since our last epidemic of yellow fever in 1756. The well-water bed lies between 20 and 25 feet below the surface, and furnishes a very clear but not very wholesome drink. Beyond the city limits to the southeast, south, southwest, west, and northwest are found numerous swamps, ponds, and bogs, some of which are cultivated in rice, others are not cultivated and subject to the action of the sun, while the remainder are protected by the natural forest growth. Of these the Teynac Swamp southeast, some ponds south, the Springfield plantation and Musgrove Creek west, have been drained (as far as could be done) by a commission appointed under the authority of the State legislature in 1877, but the work of this commission, of so great importance to the health of the city, has been stopped for want of the necessary funds to complete it. The drainage, so far as it has been accomplished, has, however, produced a remarkable effect on the health of the citizens, and the statement that "the physicians do not see one case of malarial fever now where some years ago they would have seen twenty," will be borne out, I believe, by every one who has been engaged in the practice of medicine here for the last fifteen years.

During the last summer we enjoyed almost an entire exemption from malarial fevers; this, of course, is in great part due to the dry weather. Since the rains have set in, only those whose business carries them outside of the city into malarial districts, or those staying late at night on the river front, subject to the influence of the marshy district beyond the river, have suffered from fevers in town, while in the outskirts and in some of the suburbs, especially those in close proximity to swamps and undrained lands, cases of all grades, from the simple intermittent to the malignant congestive, have occurred. In Southville, a hamlet half mile south of the limits, cases of fevers occurred in almost every house by September 20. Could the drainage commission be provided with the money required to complete such work, malarial fevers and the malarial element found in a majority of our diseases would disappear from this locality, and Savannah would thus be made one of the healthiest cities on the coast, provided the city authorities perform then fully duty in matters pertaining to public hygiene and sanitation; that is, by so improving the present system of sewerage, of privies, of scavenging, and of water supply as to reduce the sources of contamination of the soil, water, and air which are now accumulating.

Ever since the completion of our sewer system, with water-closet connection, a marked change has taken place in the type of our diseases. Typhoid fever, hitherto unknown in this city, now occurs frequently; continued fevers are common, and cholera infantum, diphtheria, and scarlet fever have become endemic.

ATLANTA, GA., October 15, 1879.—Dr. Jas. E. Baird writes as follows:

Atlanta, the capital of Georgia, is situated upon a ridge, the natural dividing line between the Atlantic Ocean and the Gulf of Mex-

ico, at an elevation of 1,050 feet above the level of the sea; and being higher than any of the surrounding country, the city is constantly fanned by refreshing mountain breezes. The atmosphere is dry and exhilarating. The salubrity of the climate greatly enhances the popularity of the city as a place of residence. Its altitude and latitude rendering it free from extremes of both heat and cold, causes it to be sought by invalids of various classes from many and remote localities. The Chattahoochee River, seven miles away, is the only stream of importance near the city. The water-supply is obtained from a small stream, South River, four miles distant, and from wells. The well-water, except in the central and most densely settled portion of the place, is excellent.

Our system of sewerage is incomplete and very imperfect, accounted for, in part, by the rapid extension of the city, though it is being very extensively and rapidly as the finances of the city will warrant. The absence of a body or stream of water of sufficient size to remove the excreta, seriously complicates the solution of the momentous problem of efficient sewerage. The foundation of the city and the soil of the surrounding country is red clay.

The population of Atlanta has rapidly increased since 1865, at which time the city was almost totally destroyed, and it now numbers, according to the latest reliable though unofficial census, 41,548 inhabitants—25,373 white and 16,175 colored.

Two policemen, detailed from the regular city police force, are constantly on duty as sanitary inspectors. They are required to visit every portion of the city, to inspect all streets, alleys, lots, and buildings, and to enforce strict compliance with the sanitary ordinances.

The city board of health, composed of three physicians and two "citizens," is the absolute arbiter in all matters pertaining to nuisances and sanitary police. It has the power to enforce its decisions in a summary manner. The mayor and board of police commissioners zealously coöperate with the board of health in its endeavors to protect the city from dangers that may arise from neglect of sanitary precautions; and while there is no stated appropriation for sanitary purposes, all the departments of the city government lead aid to accomplish the objects sought to be attained by the health authorities.

This city and vicinity have been during the summer entirely free from epidemics of every kind. The largest mortality for any month during the last quarter from any single disease was caused by cholera infantum, in the month of July, and amounted to only seven white and six colored, thirteen in all.

It is interesting to note the relative excess of mortality among the negro population in this city, as in other Southern cities, as compared to the death-rate of the whites. I shall not undertake, at present, to account for this discrepancy, though I think the melancholy fact is easily explained, and due to a combination of preventable causes—preventable if the unhappy victims could only be impressed with the importance of recognizing hygienic principles and observing sanitary rules. The annual rate of mortality per 1,000 among the blacks, as compared with the whites, in this city, based upon official reports for the last quarter, embracing the most trying months in this locality of the whole year, has been, for July, 25.50 to 18.21; for August, 29.25 to 11.88; and for September, 27 to 23.92. It is proper to state, in this connection, that the excessive death-rate, so far, at least, as this city is concerned, cannot be ascribed to want of necessary medical attention, for five competent physicians are biennially elected, with the other municipal officers, and are paid adequate salaries to render, gratuitously, all medical and surgical aid required by the poorer class of citizens, both white and colored, at their homes; and in addition to this provision, the services of the best physicians and surgeons may be obtained daily, without fee, at several public dispensaries.

THE MEXICAN HUT "JOCALÉ."—Inspector Dr. John H. Pope gives the following description of these dwellings at Brownsville, Tex.:

The Mexican jocalé is from ten to fifteen feet square, seven to nine feet from the ground to eaves, generally without floor or ceiling; one door; occasionally a window; sometimes a poor chimney; sometimes only a hole in the roof as exit for the smoke, the fire being built in the center of the jocalé. The body of the house is built by setting posts, making a framework of cane, and plastering this with mud. The roof is generally of palm-leaves. From this standard there are many variations. One will have the body of the house made of barrel staves; another of old coal-oil cans cut into pieces. Whole families of from four to ten individuals will occupy one of these huts, and the dogs and other domestic animals are allowed full freedom of the premises. I am told that the Mexican population have no fear of small pox, and take no pains to protect members of their families from the disease, even though the next-door neighbor may have it.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

LOCAL OUTBREAKS OF FEVER.

FORREST CITY, ARK.—Dr. R. W. Mitchell gives the following account of the epidemic:

The town is situated on the Memphis and Louisville Railroad. The population, formerly about 1,200, has been reduced to 90, and is nearly equally divided between white and colored. Dr. Cummings, president of the local board of health, informs me that the first recognized case of yellow fever occurred October 2, and to the 20th there had been 16 cases and 13 deaths; three convalescent and three new cases reported October 21. Most of the cases were among the best people in the town, living in houses comparatively isolated, and many of them new. Ten of the thirteen deaths were among ladies, nine of whom were married. Exposure in nursing the sick and attending funeral services accounts for the mortality among the ladies, who on the latter occasions are collected in a close room about the corpse, while the men generally remain outside. The first case probably occurred earlier than the date given, but correct information cannot be obtained, owing to the absence of those acquainted with the circumstances.

MISCELLANEOUS.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

PENSACOLA, FLA., November 4.—The board of health of this city has decided that all quarantine restrictions shall be removed on the 10th instant.

CONCORDIA, MISS.—Under date of October 30, Dr. M. S. Craft announces the epidemic of yellow fever at an end at that place. Frost has occurred, and no new case for seven days.

MEMPHIS.—October 27, one new case; October 28, none; October 29, two; city rapidly filling up with refugees. October 31, three cases; but no objection to return of people. For the week ending November 1, 10 cases of yellow fever were reported and 3 deaths.

By direction of the Secretary of War, Maj. W. H. H. Benyaurd, Corps of Engineers is detailed to advise and assist in making a sanitary survey of the city of Memphis, Tenn., to be made under the supervision of the National Board of Health.

THE NATIONAL BOARD OF HEALTH.

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National Board of Health

BULLETIN.

Vol. 1.]

WASHINGTON, D. C., SATURDAY, NOVEMBER 15, 1879.

[No. 20.]

SANITARY TOPOGRAPHY.

The near approach of the time for the proposed sanitary survey of the city of Memphis calls for some special remark upon so-called sanitary surveys in general.

The word "survey" appears to be used in a special sense in this connection, and comprises all that may be grouped under the term infection.

It is proposed, however, to restrict the term in this instance to that branch of surveying known as topography, and to associate with it such sanitary relations with which it is more immediately connected.

Topography is the more or less detailed representation, in the form of a map, of certain areas of ground, drawn to a specified scale from the previous measurement of such area by angles, linear measurements, and tangential lines. For sanitary uses such detail should embrace not only the outline or plan of a city or area, but a determination of its site, slopes, hills, valleys, irregularities of surface, relative position of prominent objects, cultivated or uncultivated fields, "made lands," proximity to marshes and forests, rivulets, streams, &c.

Thus in the general outline of a city its position as well as the direction of its streets in regard to the cardinal points of the compass should be noted as determining the perilation by the direction of the prevailing winds of the locality.

The position of marshes, ponds of stagnant water, "made land," uncultivated lands, forests, &c., should be also marked as determining the probabilities of the occurrence or non-occurrence of malaria.

The slopes and hills should be projected as determining the water-shed of the site. They afford hints as to depth of that subterranean water-shed known as the ground water, and are suggestive to the sanitary engineer of the lines of future sewers and drains. Rivers and streams being the natural drains for the district through which they flow, their direction and course should be delineated as well as a note made of their force, quantity, depth, rapidity, &c. The position of hospitals, jails, almshouses, abattoirs, dumping-grounds for street refuse, and cemeteries should be plotted, as well as the division of the city into wards by colored lines, marking their boundaries, noting at the same time the population in figures as giving a factor in determining "the density of population" to such area.

Rail and wagon roads, ferries, bridges, and all avenues leading from a city should also be plotted, as affording stations for pickets or guards in the event of the establishment of a sanitary cordon. If the city or area is sit-

uate on a river, bay, or estuary, the exposure of its littoral banks should be noted; if upon tide-water, the outlets of its sewers should be marked. The width of such river or bay, the direction of the current and its velocity, the depth, anchorage, or wharfage for vessels, location and limits of quarantine stations, &c., should also be sketched, as well as shoals, deposits of silt, and the like, noting also the rise and fall of the tide. Springs and lakes, as furnishing supplies of potable water, as well as canals, bayous, &c., should also be drawn. Many of these matters so important to the sanitarian can be projected on a map, and in most instances the items suggested can be delineated by the conventional signs in use by topographers. A contour map, with an established plane of reference through the lowest part of the area, drawn to a decimal scale and embracing these points, is a prime necessity for every city, town, or village. They present on inspection the highest and lowest points, rapid rises, sudden descents, flat surfaces, ridges, hills, and valleys. Their importance in sanitary inspections cannot be underestimated. Even rough surveys can be made with an opera glass, pocket-compass, carpenter's tape-measure, and improvised leveling staff and plane table; and if the preceding hints on sanitary map-drawing be "penciled by the way," a topographical map can be made presenting sufficient characteristics to serve as a basis for the work of the sanitarian.

It is best, however, to employ a skilled surveyor for such service in order to secure exactness. The National Board of Health is desirous to secure for its information, as well as the inspection of all persons interested in such matters who may visit the capital, the best contour maps now in existence of any city, town, or place.

ABSTRACTS FROM CONSULAR REPORTS.

CADIZ, SPAIN.—Consul A. N. Duffie writes, under date of October 27, that the statistics for weekly reports cannot be obtained, and that no sanitary information will be published by the authorities till the end of the year.

MESSINA, SICILY.—For the month of July Consul Geo. H. Owen reports 257 deaths in a population estimated at 76,729, or an annual rate of 10.2 per 1,000. There were 4 deaths from typhoid fever and 24 from "other contagious diseases." The remaining deaths were largely due to diarrheal and lung diseases, though the sanitary condition of the place is rated as "good."

ZURICH, SWITZERLAND.—United States Consul Byers forwards a report for the three months from July 1 to September 30. The population is 22,000; and the total

number of deaths being 88, the annual rate was 16 per 1,000. The fatal cases noted are: measles, 3; diphtheria, 1; whooping-cough, 6; puerperal fever, 1; consumption, 10; acute lung diseases, 5; heart disease, 4; apoplexy, 3; diarrhoeal diseases, 15; suicide, 3; accidents, 1.

BOMBAY, INDIA.—Consul B. F. Earnham sends a report of mortality for the second quarter of 1879. There were 5,372 deaths; 3,225 births, and 232 still-born. Deaths were: from small-pox, 256; measles, 323; diphtheria, 1; croup, 1; whooping-cough, 20; cholera, 47; diarrhoea, 240; dysentery, 235, and malarial fevers, 1,113. Mean temperature, 53°·1; population not given.

BARBADOS.—Under date of October 9, United States Consul W. H. Polleys states there is a local board of health, but as it makes no reports he has to obtain information from the inspector of police. The health of the island is generally good, no epidemic disease having existed there since 1854, when cholera was brought there from abroad.

MOSCOW, RUSSIA.—Consul R. P. Wilson reports for the month of July a total of 1,857 deaths, in a population of 601,969; annual rate, 37 per 1,000. There were 5 deaths from small-pox, 667 from typhoid fever; and 157 from other zymotic diseases; from lung diseases, 372; and from gastro-intestinal affections, 568. The mean barometer was 29·14, and mean temperature 57°·7. The general sanitary condition of the city is bad, from defective drainage and absence of sewerage.

SONNEBERG, GERMANY.—Consul H. J. Winsor sends a report of deaths for the four weeks ending July 26. He states that the consular district of Sonneberg comprises the cities of Erfurt, Gotha, Weimar, Eisenach, and Coburg. The cities have an aggregate population of 126,143; the total number of deaths was 170, giving an annual rate of 17·5 per 1,000. The causes of death given are: typhoid fever, 1; scarlet fever, 2; diphtheria, 3, and whooping-cough, 3. The mean barometer for the month was 28°·2; mean temperature, 62°·9; sanitary condition of the district rated as "good."

GIBRALTAR.—Mr. Sprague, United States consul, gives a full report of deaths for the year 1878. The total number of deaths was 470, in a population estimated at 19,000, which gives an annual rate of 24·7 per 1,000. Among the causes of death are: diphtheria, 1; croup, 6; typhoid and malarial fevers, 37; measles, 1; small-pox, 10; diseases of the bowels and stomach, 45; of the heart, 23; of the liver, 16; of the kidneys, 5; of the brain, 4; of the lungs, 121. It is remarkable that 25 deaths are ascribed to cancer, being over 5 per cent. of the total mortality. There were 33 deaths from old age, and only 4 from accidents; diseases incident to dentition claim 43 victims, but the mortality among children is not stated.

ANTWERP, BELGIUM.—United States Consul John H. Stewart sends a statement of mortality in this city for the year 1878. There were 3,784 deaths, and the population being estimated at 169,380, the annual rate was 22·3 per 1,000. According to age and sex, the deaths were divided as follows: males, 2,083; females, 1,701; under 1 year, 1,175; from 1 to 7, 574; from 7 to 15, 72; from 15 to 21, 112; from 21 to 50, 708; above 50 years, 993. Deaths were caused by the following diseases, where ascertained: diseases of the respiratory organs, pneumonia, and bronchitis, 540; other lung diseases, 543; diarrhoeal diseases, 413; diphtheria and croup, 60; measles, 13; scarlet fever, 3; small-pox, 6; whooping-cough, 21; typhoid fever, 105.

HAVANA, CUBA.—By advices to November 1, the American bark *Robert Murray*, jr., sailed October 27 for New York; the American brig *Walter Smith* October 27, and the American schooner *Robert Leff* October 28. Each of these had one or more cases of yellow fever on board while at Havana. The following Spanish vessels, sailing for United States ports, also had fever on board while in port: bark *Virgatus*, October 24, for Savannah, brigs *Virgenes* and *Urbana*, and bark *Sincero* and *María Luisa*, for Charleston, same date. There were nine deaths in the city during the week ending October 31 from yellow fever, and it is estimated that 26 cases existed November 1.

TANGIER, MOROCCO.—United States Consul Felix A. Mathews, who is also president of the local board of health, writes under date of September 14, inclosing a statement made by Dr. Antonio de Vera at the port of Larache, to the effect that 18 deaths had occurred at that place between August 3 and September 5 from typhus fever, and 129 from Asiatic cholera. The board of health at Tangier considered the report, and not being satisfied as to the nature of the disease reported as cholera, decided to send two medical men to investigate the symptoms.

MARSEILLES, FRANCE.—Consul J. Martin, jr., sends a report of this city for the month of August, 1879. The population is given as 319,000, and the deaths for the month were 965, being at the annual rate of 36·3 per 1,000. The deaths include 417 adults, and 548 children, of whom 281 were under one year of age. The causes given are as follows: small-pox, 17; typhoid fever, 37; measles, 10; whooping-cough, 16; consumption, 44; other lung diseases, 116; diarrhoeal diseases, 130, of which 108 were children.

RIO DE JANEIRO, BRAZIL.—Consul-General Hon. Thomas Adamson writes as follows to the State Department, September 18, 1879:

Referring to the act of Congress inclosed with circular of June 24, 1879, I beg leave to state that it would, practically speaking, be almost impossible for the consular officer at this port to make or cause to be made an inspection of vessels bound for the United States, unless authorized to call upon a medical man for that purpose. I beg, also, to state that, as a rule, Baltimore captains have refused to take a bill of health from this office, and invariably so if it could not be made a "clean" one. Yellow fever prevails here almost all the time, but only as an epidemic during the season of our winter at home. I recommend that the consular bill of health be always demanded at our home ports.

MARACAIBO, VENEZUELA.—Mr. E. H. Plummer, United States commercial agent, sends the following account of this port through the Department of State, dated September 27:

Since my last communication of September 13, the health of this port has become very bad, and yellow fever is spreading rapidly. On board of English vessels I have had about 20 cases, of which at least one-half died. Most of the foreigners here have been attacked with the fever, but no deaths have yet occurred among them. The American brig *Harriet G.*, Captain Avery, of New York, came here lately from that port, and the whole crew had the fever. Two of them were sent to the hospital, where one, Albert Laudsfer, died this morning, and was buried in the cemetery for foreigners. The only tug-boat has lately been taken by the government to bring troops here to control the election riots. Many vessels are detained inside the bar, waiting to be towed out, and thus the fever has had time to spread among them. For the last two weeks I have been almost daily called upon to attend to the burial of sailors from English and Scandinavian vessels, they having no representative at this place. I have myself been near dying with the fever, and Mr. William Mollman, of New York, who had assisted me in relieving the sufferers, was taken the same time, and died at my house a few days ago. The government proposed to send the infected vessels to what they here call quarantine, a barren island, far from any medical or other aid. To such action I objected, and firmly maintained my ground, as the vessels had contracted the fever here, and the removal would have been almost certain death to all on board. By keeping them in port I have been able to give them my personal attention, with medical assistance. The weather is now excessively hot, with daily heavy rains, and while these conditions continue the disease is not likely to decrease if material is here for it to attack.

POINT À PITRE, GUADALOUPE.—The following communication, dated September 23, was received at the Department of State from United States Consul Charles Bartlett:

On the 2d instant an order was promulgated to quarantine all vessels from the United States for twenty-three days, passage included. I had an interview with the deputy of the director of the interior, who was about leaving for Basseterre, and would report my views to the authorities. While admitting the right of any state to use its own discretion in quarantine laws for its own protection, I stated that in this case there was no sufficient reason to justify the order, as yellow fever was unknown in many United States ports, and when it reached New York was confined to the quarantine hospital. And further, that if a ship cleared from a port where there was a representative of the nation to whose territory she was bound, had a clean bill of health from such officer, and no sickness on board at the time of arrival or during the voyage, she was justly entitled to *passage*. Also, if on arrival she was visited by the proper officer and received his certificate that there was no evidence of infection in the ship, cargo, or crew, the authorities who should then refuse *passage* to such vessel would be liable for all damages and expenses entailed by their refusal. I have reason to believe that the modification of the order, so far as relates to the United States, was the result of this conversation.

IONIAN ISLANDS, ZANTE.—Consular agent, A. Sargent, on September 18, transmitted the following report to the State Department:

With the view of carrying out your instructions, as far as it is possible, I gave all my attention to the subject in question, and after careful investigations made I regret to say that they are not practicable. As the government does not support any meteorological establishment, nor are any records kept of atmospheric changes, either officially or by private individuals, and as no proper instruments for that purpose exist in the place, there are no means of ascertaining the daily or weekly readings of either thermometer or barometer. With regard to deaths I must premise that the town and country are subdivided into districts, which only make quarterly returns to the central office. In case of contagious diseases the doctors in charge of the districts are expected to make special reports, which are not published, but are only known to the public by hearsay, and upon these reports are based the bills of health which are granted to the ships that leave this port for foreign countries. The quarterly reports of mortality not being published, they can only be obtained by official application to the Nomarch (Prefet), and they are not easily or rather promptly granted.

For the general information of the National Board of Health I may here mention that the climate of this island, notwithstanding the inefficient hygienic measures taken by the local government, is very salubrious. Contagious and infectious diseases very seldom occur, and when they do they are quite of a sporadic nature. In the summer season the thermometer stands at from 80° to 85° in the shade, with the prevalence of easterly winds in the morning, turning to the west or northwest in the evening, and in the winter the mercury seldom goes below "temperate," so that fires for warming rooms are seldom required.

The town is built upon the slope of a hill facing due east, and the opposite coast of Continental Greece is about eighteen miles distant. According to the last census, taken this year, the population of Zante consists of 46,570 souls, of which 14,774 reside in the town, and, according to official information obtained from the dimarchy, the mortality in 1878 amounted to 670 in all.

SINGAPORE.—Consul A. G. Sinder reports, under date of September 23, that the port and adjacent country continue free from contagious or epidemic disease. He adds the following facts relating to quarantine regulations:

I received by last mail one copy of the NATIONAL BOARD OF HEALTH BULLETIN, dated August 2. It treats chiefly on "disinfection" and "precautionary measures," and gives reports of the spread of yellow fever in Memphis, and instances of the same dread epidemic in Mississippi. I also note some "consular reports" to your office, among which one from General J. Stabel, United States consul for Osaka and Hiogo, Japan, in which he reports that cholera existed in his district, and that the Japanese Government was taking precautionary measures. He also reports the sailing of the following steamers bound for New York via the Suez canal, viz: Brit. S. S. "Gordon Castle," 7th instant, the Brit. S. S. "Glenfinlas," 25th instant, and the Brit. S. S. "Bryconshire" (would sail next day). That was the first information I had that cholera had existed in Japan. All these steamers and several besides passed through this port on their way to New York, and I gave to all clean bills of health that applied for certificates. The majority did apply, only those of the Glenline (prefix of "Glen" to the name of the vessel) did not. I reported one of them, though the port was healthy, to the New York board of health, because I have been informed that the masters of said line have been told in China that if they get a clean bill of health from the health officer of the port they do not need any certificate. Now as far as the truth of this is concerned I cannot contradict it, however irregular the procedure. In view of the laws of the United States, if cholera existed in Japan or China, that would not hinder me from giving a clean bill of health provided the state of health of this port and adjacent country is satisfactory, and no cases of epidemics, plague, or infectious diseases reported. No steamer could arrive here with such diseases on board and sail again unless no stoppage is made for coaling, &c., &c. All these steamers must stop here to coal, take more or less cargo, provisions, &c., and if any number or numbers of a crew suffer from an infectious or contagious disease the master is bound to report the same. The patients are landed on an island several miles distant from the port, and the ship is fumigated (disinfected). Such a steamer, or any steamer bound hence to the United States, can obtain a clean bill of health from me after producing one from the health officer of the port. But should the germ of an infectious disease break out after leaving this port, such a steamer could pass neither Aden nor Suez without being quarantined. The quarantine laws are very rigidly enforced in those ports, and again at Malta or Gibraltar, where they stop for coal.

Yellow fever is an unknown disease in this part of the world; small-pox occurs occasionally, but the patients are at once removed to the Lock Hospital on discovering the disease, and it has never been serious here. Cholera, as an epidemic, existed in 1873 for a short

time in a sporadic form on several occasions, but only among the poorest natives; during the past 18 months it has not appeared. As to sailing vessels, if an epidemic or infectious disease breaks out after leaving port, it has to either put back or make for the nearest port. This port is one of the most salubrious in Asia, and no fears need be entertained at home on account of it so long as I make no report to the contrary.

YOKOHAMA, JAPAN.—Dr. D. B. Simmons, under date of October 10, writes as follows concerning the epidemic of cholera in Japan:

The disease first showed itself in Osaka and Kobe, and has been most severe in those cities and in the southern provinces; it did not reach this city till the 1st of June. For more than a month there were only a few cases here and there, and the disease only gradually increased to the figures I give below. Much has been done by the government in enforcing sanitary measures, and I hope to publish in the customs reports of China in the next two months an account of the work which reflects so much credit on the Japanese Government. The total returns for the whole empire up to September 30 give: Cases, 118,038; deaths, 53,012; percentage of deaths, 56.07. For Tokyo, En, or city, up to October 8, cases, 2,053; deaths, 1,525; recovered, 362, under treatment, 165. For Yokohama and Kan, from June 18 to October 8, cases, 2,099; deaths, 1,179; recovered, 745; remaining, 51. October 7, there were but two new cases in Yokohama and no deaths. Tokyo has spent 90,000 yen in sanitary work up to this time. The type of the disease has been a little different from Asiatic cholera as generally met with, though there was nothing wanting in its leading features. Rice-water discharges were not the rule; often there was but little diarrhoea, then collapse, cramps, suppression of urine, and a rapidly fatal termination.

MISCELLANEOUS.

COLUMBUS, MISS.—On the mortuary report for the week ending November 1 it is noted that all quarantine restrictions have been removed at this place.

BOLDER, COLO.—Dr. Charles Ambrook states that there were but three deaths in this town of 3,500 inhabitants during the month of October, 1879. Inflammation of the brain, cancer of the breast, and typhoid fever were the causes of death.

SAINT LOUIS, MO.—The death from yellow fever noted in the report for the week ending November 1 illustrates the danger of a too early return to an infected place. The case was that of a Memphis merchant who had spent the summer at Saint Louis. He went home, was taken sick soon after, returned to Saint Louis, and died of yellow fever in the city hospital there.

FRANKLIN, LA.—Under date of October 26, Dr. C. M. Smith states that three deaths from yellow fever had recently occurred in the Cypress-not Prairie, viz, a man named Henry Beal and two children of Frank Rogers, a planter, living one mile from Beal's store. There was reason to believe that several cases had previously occurred among the negroes on the Rogers plantation. The two children had visited the sick in the negro quarters with their mother a few days before they were taken with fever, and they had also been at Beal's store while he was opening a box of goods, supposed to contain second-hand blankets. It is said that quite an extensive trade in such goods is carried on by one or two houses in New Orleans, and that small dealers in the country often obtain their goods from those houses. Dr. Smith calls attention to the danger attending such a traffic, and the importance of some supervision of it by proper authority, at least during the existence of contagious disease in the place where the articles are obtained.

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Report of mortality in cities of the United States for the week ending November 1, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
N. H. Concord	14,000	2	5	18.6												1		
Mass. Boston	375,000	62	138	19.2		17	15	10		15	1			2		4		3
Cambridge	50,000	6	9	9.4			4	1										
New Bedford	27,000	3	11	21.2														
Newburyport	13,800	2	2	7.4														
Marblehead	7,500	1	12	13.9		1											1	
Lowell	52,100	10	15	19.0		1	1							1				
Lawrence	40,000	5	9	11.7		1												
Brockton	12,000	2	5	21.7			1											
Pittsfield			3			1												
Milford	10,000	1	3															
Somerville	23,000	3	8	18.1		3												
R. I. Providence	101,500	21	41	21.1		7	1	7		2				8				
Conn. New Haven	60,000	6	14	12.2		6				1	1							
Norwich	17,000	2	2															
Vt. Burlington	16,500	3	4	12.6														
N. Y. New York	1,097,563	217	494	23.5		82	37	50	2	70	5	4	2	15		5		3
Brooklyn	564,448		237	21.9		35	11	30		36	3		1	1		1		2
Poughkeepsie	20,000		3	5.8														
Newburgh	17,500	1	2															
Hudson	8,754		1	5.9		1												
Utica	35,000		5	7.4		1							1	1				
Binghamton	16,000	2	3	8.7														
N. J. Hudson Conny.	199,000	12	78	20.4			4	9		13	1					1		
Newark	142,000	14	48	19.0	1	11					1	2		1		1		
Penn. Philadelphia	931,380	58	225	13.0		46	6	13	1	4	2			2		7		3
Erie	30,000	6	9	15.6	1	3												
Reading	40,110	5	11	14.3		3												
Pittsburg	145,000	27	67	24.1		5	4	14		5	1			3		4		2
Del. Wilmington	44,000	6	13	15.4		4										1		
Md. Baltimore	460,000	47	122	15.9		19	1	1	1	5	2			9		3		3
District of Columbia	170,000	32	55	16.9		7	2						2	1		1		
Va. Norfolk	24,000	4	21	45.6		6	1	2								1		2
Richmond	10,000	12	26	16.9		6	1							1				
S. C. Charleston	57,000	10	30	27.4		5	1	2		2								1
Ga. Augusta	30,000	3	9	9										1				
Atlanta	41,548	4	12	15.1			3	1										3
Rome	5,000	1	1	10.4					1									
Fla. Pensacola	8,500	2	1	18.4		1	1											
Jacksonville	10,000	3	7	36.5														
Miss. Columbus	5,300												1					
La. New Orleans	210,000	34	113	25.1		21	3	5		4	6							
Tex. Houston	30,000	3	6	10.4														
Ark. Little Rock	22,000	1	4	9.5														
Tenn. Nashville	27,085	3	9	17.3		2	1											
Chattanooga	12,000	4	4	17.3														
W. Va. Wheeling	35,000	7	15	22.4		1	3	4						2				1
Ohio. Port Huron	200,000	24	90	16.9		20	3	1		1				3		3		1
Cleveland	175,000	31	60	17.9		1	2	7		1	1			1		1		1
Gallipolis	5,500																	
Dayton	39,000	6	11	18.7		2		3						1				
Mich. Port Huron	8,000	1	1	6.4														
Ind. Evansville	37,500	2	9	12.5														
Indianapolis	97,000	5	23	12.4		5	1	1						4				
Ill. Chicago	537,624	5	169	16.4		12	2	19	1	9				11		5		
Peoria	46,000		6	7.8														
Quincy	35,000	2	9	13.4														
Aurora	14,550	3	7	25.1		2												
Wis. Milwaukee	124,000	13	36	15.1	1	2		5		3				1		1		
Minn. Saint Paul	51,600	3	5	5.1														
Minneapolis	28,000	7	11	11.9		1												
Iowa. Burlington	30,000	7	2	3.5		1	1											
Dubuque	30,000	3	6	10.4														
Keokuk	15,000	1	1	3.5	1													
Mo. Saint Louis	200,000	39	91	11.0		15	3		1	3	2			1		1		2
Nebr. Omaha	30,000	2	6	10.4		2	1	1		1								
Cal. San Francisco	300,000	40	108	18.8	1	18	13	1										3
Sacramento	25,000	2	9	18.8		1	1											2
Vallejo	5,000	2	4	41.7		1												
Totals	7,667,994	915	2,568	17.4		396	139	186	7	207	36	4	11	85		58	24	1

* District of Columbia has 114,000 white, 56,000 colored; deaths, 29 white, 26 colored. Rate per 1,000, white, 13.3, colored, 21.2. Norfolk has 14,067 white, 9,993 colored; deaths, 10 white, 11 colored. Rate per 1,000, white, 37.0, colored, 57.5. Richmond, Va., has 16,000 white, 34,000 colored; deaths, 12 white, 14 colored. Rate per 1,000, white, 13.6, colored, 21.5. Charleston has 25,000 white, 32,000 colored; deaths, 6 white, 21 colored. Rate per 1,000, white, 12.5, colored, 29.1. Augusta has 15,246 white, 11,000 colored; deaths, 6 white, 3 colored. Rate per 1,000, white, 25.75, colored, 16.15. Atlanta has 25,373 white, 16,175 colored; deaths, 3 white, 9 colored. Rate per 1,000, white, 6.2, colored, 29.0. New Orleans has 155,000 white, 55,000 colored; deaths, 71 white, 42 colored. Rate per 1,000, white, 24.9, colored, 29.8. Nashville has 17,555 white, 9,500 colored; deaths, 6 white, 3 colored. Rate per 1,000, white, 17.8, colored, 16.5.

The following reports, for the week ending November 1, are from places where burial permits are required, and having less than 5,000 population:

Bridgewater, Mass., population 3,900; deaths 2; under 5 years 1; consumption 1. Brunswick, Ga., 3,000; no deaths. Edgartown, Mass., 1,700; no deaths. Franklin, Tenn., 1,800; deaths 3; diarrhoea 1, pneumonia 1. Franklin, Ind.; deaths 2; under 5 years 1; consumption 1, pneumonia 1. Murfreesborough, Tenn., 1,000; 1 death. Nantucket, Mass., 3,000; deaths 1; consumption 2.

The following reports, for the week ending November 1, are from places in which burial permits are not required:

Allegheny, Pa., population 75,000; deaths 15; under 5 years 8; consumption 1, diarrhoea 2, diphtheria 2, croup 2, pneumonia 2, scarlet fever 1. Bath, Me., 10,000; no deaths. Battle Creek, Mich., 7,500; no deaths. Belfast, Me., 5,278; diarrhoea 2. Benton County, Miss., 11,000; diarrhoea 1, infant, 1. Cahas, Me., 7,000; deaths 3; under 5 years 1; consumption 1, pneumonia 1. Carrollton, Miss., 600; no deaths. Columbus, Ga., 10,000; deaths 1; under 5 years 2; diarrhoea

2, malarial fever 1, pneumonia 1. Decatur, Miss., 1,000; 1 premature birth. Fayette, Miss., 300; no deaths. Flint, Mich., 10,000; deaths 4; under 5 years 1; mepheral fever 1, whooping-cough 1. Greenwood, Miss., 400; no deaths. Helena, Mont., 3,500; 1 death, violence. Indiana, Tex., 900; consumption 1. Louisiana, Mo., 5,000; typhoid fever 1. Mansfield, Ohio, 11,000; diphtheria 1. Monroe, Mich., 5,846; deaths 3, under 5 years; malarial fever 1, pneumonia 1, typhoid fever 1. Mount Pleasant, Iowa, 5,000; no deaths. Niles, Mich., 4,430; no deaths. Painesville, Ohio, 5,000; 1 from crop, under 5 years. Pass Christian, Miss., 4,000; no deaths. Pontotoc, Miss., 600; consumption 1. Shelbyville, Tenn., 2,000; no deaths. Starkville, Miss., 1,163; no deaths. Waterbury, Conn., 16,780; deaths 7; under 5 years 2; consumption 1. Winona, Minn., 11,750; typhoid fever 2. Youngstown, Ohio, 17,000; deaths 3; under 5 years 1; diarrhœa 1, diphtheria 1, typhoid fever 1.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

CONCORDIA, MISS.—Inspector Dr. M. S. Craft, under date of November 7, gives the following account of this place and the yellow-fever epidemic there:

Concordia is a village in Bolivar County, Mississippi, of about two hundred and fifty inhabitants, situated on the Mississippi River midway between Memphis and Vicksburg. The soil is alluvial and very rich, and but for the levee in front subject to overflow. The water supply is good, being chiefly from underground cisterns built of brick, with an occasional well the water from which is used for washing and purposes other than drinking.

This is an important shipping-point for the cotton of Bolivar County as well as a trading-place for the planters of the interior.

Concordia as recently incorporated is a union of two little trading-places about three-quarters of a mile apart, known as Concordia and Carson's Landing. The first, the place nearest the river and the landing for steamboats, is low, damp, and poorly drained. Immediately in its front, outside the levee, there is a deep bayou that is nearly dry in summer, with here and there stagnant pools in its course. In this low part of Concordia lived many of the best citizens, and attached to the premises of most of them were large cow and horse lots, in which those animals in great numbers staid and made their deposits. Hogs, too, in droves, were to be seen in the locality, burrowing and wallowing in the soft, wet earth, and adding somewhat to the aromas of the neighborhood. One gentleman had his stable and cow-lot immediately in front of his house, and had to pass through them before entering his residence. For the convenience of the village, he occasionally butchered a beef for the neighbors of appearance as well as of health. It was in this portion of Concordia and among these best people that yellow fever first made its appearance, and it was here that it was most malignant and continued so during the entire epidemic. In fact it could hardly be regarded as epidemic anywhere else, but few cases having occurred that were not directly traceable to infection from this locality.

Carson's Landing, over half a mile distant, was higher and much cleaner, and the disease, though often introduced from below, did not spread to those not otherwise exposed, until late in the epidemic, and then only in two or three instances.

Intercourse between the infected and non-infected places was of course forbidden, and as far as it could be enforced did good. The well were kept at Carson and the sick concentrated in Concordia, but so fatal did the disease become in that locality that persons living out of it, when taken sick, refused to be carried there; so we abandoned the idea of moving them and treated them in their own houses, where they were out of the epidemic influences and breathing an otherwise purer atmosphere.

Dispersion to the country was no longer practicable, after it was known that the disease was yellow fever. So great was the fear of the country people that they voluntarily stood guard day and night, and with guns in their hands forbade any one passing out. This was kept up about a month, but practically discontinued three weeks ago, at which time we were enabled to put a few exposed persons to unoccupied houses in the neighborhood but outside the epidemic, and in other instances to give out tents and let them locate at points remote from habitations in the country. Of about forty persons so moved, all of whom had been for weeks exposed to infection, but two took the fever, and I think very few of them could have escaped if they had remained.

Disinfection and fumigation were put in operation early and continued through the epidemic. Just before the close, as cold weather approached, I noticed a disposition to neglect it, but in the main it was constantly and thoroughly done and I think with very perceptible good effect.

As soon as cases terminated the rooms and everything in them were subjected to fumes of burning sulphur, in many instances immediately after death and before the body was removed, that those who were compelled to handle them and breathe the atmosphere might, if possible, be protected.

Much handling of the dead was in every way discouraged and in but few instances were they washed and dressed. We directed that

the clothing in which they died should not be removed, but simply saturated with the zinc-salt solution and the whole enveloped in a sheet wrung out of the same fluid. They were thus confined and at once buried, everything being prearranged, that there might be, day or night, no delay.

There was but little effort made by disinfection to save bedding, clothing, and articles used by the sick. Almost everything was burned as soon as death occurred or as soon as they could be dispensed with by convalescents. In some cases rooms were fumigated with burning sulphur as soon as they were vacant, and closed up, and nothing touched or removed and no one allowed to enter except for additional fumigation.

Nothing like general disinfection was attempted, though we made efforts to organize a corps of workers for that purpose. Those who were up and could be persuaded to do anything were fully occupied attending the sick and burying the dead. And when we consider that but one or two of them escaped the fever and that some of them died, it is surprising that they held out so long and did the work so well.

Though there is some obscurity as to the means by which yellow fever was introduced into Concordia, there is no doubt in the mind of any one that it came from Memphis.

Upon the announcement of a death in Memphis from yellow fever on the 7th of July, and other cases immediately following it, there was a tremendous effort made by the merchants of that city to dispose of their goods, and the small towns in the interior and on the river that traded with Memphis were equally anxious to get supplies before that city was closed by quarantine. From the books of the receiving clerk at the wharf at Concordia, I learned that large quantities of groceries and dry goods were received by the different merchants of the place on the 13th, 14th, and 23d of July. Immediately after the last date a quarantine was established, and neither goods nor passengers from Memphis were allowed to enter. So the yellow-fever poison must have been introduced at one of those dates.

Without looking further for the particular article of goods that brought the poison to Concordia, or being able satisfactorily to determine its precise mode of introduction, we think that we approximate a solution when we consider that Tobin, in whose house the first cases occurred, was a merchant, that he bought goods in Memphis, and received largely every character of merchandise between the announcement of the first case at Memphis and the establishment of the quarantine at Concordia, on the 24th of July.

That such goods in such quantities could be received from Memphis, when there were many well-known points of yellow-fever infection in that city, without bringing something that was infected, is hardly probable. That something, acting as a carrier of the poison, may have remained for weeks boxed up, or packed away on the shelves at Tobin's. How Mrs. Tobin, as many suppose, became the first victim of the disease, thirty-four days after the quarantine was established, no one can explain: all who could possibly have information upon the subject are dead. But Mrs. Tobin's physician insists that she did not die of yellow fever, but of an acute heart affection. It is certain that she was taken sick on the 26th of August, and died on the 31st, and many witnesses attest that she threw up black vomit. The next, or first undisputed case of yellow fever, was a Mr. S. Frank, who boarded at Tobin's, and was very intimate with the family; lived there during Mrs. Tobin's illness, and attended the funeral. He was taken sick on the 7th of September and died on the 13th. Mr. Tobin was taken on the 8th of September and died on the 12th. Mr. Key, a lawyer of the place, who lived near Tobin's, was taken on the 7th and died on the 12th of September; all unmistakable cases of yellow fever, as were the many in the same neighborhood who sickened soon afterward: all of whom visited and assisted in nursing the first-mentioned cases.

On the 13th of September Dr. Pease telegraphed to Jackson, Miss., that he had a suspicious and very fatal form of fever in his community, and had lost four cases, asking for a physician and nurses, to which, at Dr. Mitchell's request, I responded, reaching Concordia on the 15th of September. I found eight or ten sick, and the disease spreading rapidly considering there were only about one hundred and twenty persons in the place. Almost all of this number had been in some way exposed to the first cases, and were liable to take the fever; they did take it, with two or three exceptions. This remark does not include of course those removed from the infection a few weeks later, about thirty-eight of whom thereby escaped. It is hardly necessary to detail the progress of the epidemic, its culmination or decline; suffice it to say it continued unabated until October 24, when we had the first frost, followed quickly by two others, which effectually put a stop to the epidemic.

I close with the following figures: Total number of cases, 75; whites 36, blacks 39. Total deaths 28; whites 21, blacks 7. Total recovered, 47; whites 15, blacks 32. Total percentage of deaths, 37; of whites 58, of blacks 18.

SAINT MARY'S, GA.—Inspector Dr. W. H. Elliott gives the following description of this place:

The town is in latitude 30° 42' N., longitude 81° 33' W., on the north bank of the Saint Mary's River, and about ten miles from its mouth. The river forms the boundary between Georgia and Florida;

the island of Amelia, with the city of Fernandina, lies to the southeast. To the east lies Cumberland Island, and the sound of the same name is between the two islands. All these points may be seen from Saint Mary's, as only marshes intervene.

The population is about 800, nearly equally divided between white and colored. The climate is about the same as that of Fernandina. The open marshes offer no obstruction to the sea breezes, and the water in front of the town is salt, except when there is a freshet in the river. The town is built on a plateau of pure sand at an average elevation of ten feet above mean low water. This plateau is in the form of a peninsula, flanked on either side by marshes subject to the overflow of the tides. The stratum of sand has an average depth of ten feet, and beneath it is a layer of hard dark-brown material, which seems to be sandstone in a state of formation. To the northwest, and just beyond the limits of the town, is a low tract of several acres, known as the "Bay Swamp." This drains a considerable portion of the adjacent land, but contains water only in rainy seasons. It is drained by a large open ditch, which runs along the western border of the town to the river. The tide flows in and out of this ditch, so that it serves as a drain only half of the time. The water supply is exclusively from wells and pumps. Most of them penetrate only to the hard stratum, and must contain some swamp water; a few go into the brown material, and the water from these has a slight taste of sulphur. As most of the people are supplied from the street pumps, and as the streets and lots are spacious, the drinking water and the privies are farther apart than is generally the case where the two are found together. The drainage is effected by two open ditches; the soil is so porous that water quickly sinks from the surface, and the towns are said to be exempt from periodic fevers. The streets are wide, generally overgrown with grass and weeds excepting a wagon-track in the center and a foot-path on each side; one side-walk is paved with wood and a few others with oyster-shells. The streets are kept clean and in excellent condition, but for the weeds; they are shaded by a magnificent growth of live-oak, cedar, and pecan trees. On the city front are six wharves, built of hewn pine logs, the spaces filled in with stones and earth. Two of them are in use and in good condition; the wood-work of the others is much decayed, and they are used to some extent as places of deposit for the refuse from the neighboring houses. At the west end of the water-front is a large pile of decomposing pine sawdust, and in front of this a decaying wharf, which retains much of the filth floated to it by the river. There is, however, no evidence of disease caused by these things among the neighboring people. The houses are all of wood, mostly surrounded by spacious and shaded grounds. The privy system is in use, but there are no vaults; there is no ordinance compelling the cleaning of privies or removal of garbage. The cemetery lies to the west of the town in a beautiful forest; it has no keeper, and burials are made without permits. No records of burials are kept, and there are no statistics of mortality. It is stated that there was but one interment during the quarter ending September 30, though the cemetery is used by the country people as well as by those of the town.

The board of health is created by ordinance of the city council, which can abolish the board, but cannot control its action. No provision is made for city sanitary expenses.

The quarantine establishment consists of two stations, and a medical officer, who is elected annually by the city council. The present incumbent is Dr. F. Barnard, who resides in the town, and is *ex officio* president of the board of health. The stations are only certain anchorage grounds, where vessels may lie in quarantine. The lower one is in Cumberland Sound, the upper one in the Saint Mary's River; no quarantine buildings are provided. The rules and regulations of the National Board of Health were adopted August 9, and have been enforced, at least as far as disinfection of ships is concerned. The commerce of the town is small, the average number of arrivals from foreign ports not exceeding one per month; the arrival of an infected vessel is a comparatively rare occurrence.

SAINT AUGUSTINE, FLORIDA.—Inspector Dr. W. H. Elliott reports as follows, of the sanitary condition of this city:

Saint Augustine is situated in latitude 29° 53' 30" north, and longitude 81° 1' 20" west. The population is estimated at 2,500, of whom 1,000 are colored. A considerable proportion of the whites are Spanish and Minotran descent. The climate is agreeable at all seasons of the year. The mean temperature of the winter months is 55°, of the summer 80°. The average annual rain-fall is 32 inches.

The city is located on a peninsula, which extends southward between the San Sebastian River on the west, and the Matanzas River on the east, both of which are salt. The former river takes its rise in a swamp about five miles north of the city. This river is crossed by a causeway and bridge, near the western end of which is the terminus of the only railroad at Saint Augustine, and which connects it with Tocoi on the Saint John's River 15 miles distant.

The peninsula on which the city is situated is subdivided into two smaller ones by the Maria Sanchez Creek. Communication across this creek is had by two causeways provided with culverts through which the tide ebbs and flows. A considerable portion of the city

drains into this creek, which in the rainy season contains brackish water. Statements were conflicting as to whether or not the residents in the neighborhood of this creek were more liable to periodical fever than the rest of the inhabitants. In the outbreak of yellow fever which occurred in November, 1877, most of the cases occurred in this neighborhood. The soil of the city is pure sand, through which water readily percolates. The average elevation above the level of the sea is not over 15 feet.

The water supply is almost exclusively from wells, which in many instances are quite near the privy vaults, a condition of things which the foreign element of the population seem rather to prefer. A few of the residences are provided with cisterns.

The drainage is mainly on the surface. There are no sewers, with the exception of a short one extending from the principal hotel to the river front, and which is reported to be in a foul condition, and a sewer recently laid to drain a foul pond in the southeast quarter of the city, near the United States barracks. Near the northern limit of the city is a small canal which extends entirely across the peninsula west from Fort Marion. The tide flows in and out from both rivers. If this canal and the culverts in the Maria Sanchez Creek were provided with locks which would exclude the salt water while giving free exit to the natural drainage of the soil, it would make a great improvement in the drainage of the city. This can be done at comparatively trifling cost.

In regard to *corrosion* the privy system prevails and vaults are in general use. No ordinances require them to be emptied and disinfected.

JEFFERSON, TEX.—Inspector Dr. A. P. Brown, under date of November 1, reports that by order of the governor a strict quarantine against all places infected by yellow fever will be maintained so long as any possible danger may appear. Malarial fevers are common, and an unhealthy east wind prevails; the temperature for the past week has ranged from 44° to 85°.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

SAVANNAH, GA.—Dr. J. C. Le Hardy concludes his account (see last number of BULLETIN) as follows:

The privy system is faulty. The privy-vaults being built with porous bricks allow the percolation of soluble excreta into the soil, and their semi-solid contents are allowed to remain undisturbed sometimes for many years, evolving noxious gases night and day. The scavenging, although very expensive (\$12,500 in 1879), is not done properly. Slops of all description are thrown into the streets and lanes; part of the garbage is left in the lanes and there accumulates, thus raising the level of these lanes several inches above that of surrounding yards, allowing rain-water to run into these yards and the privy-vaults. Again, the sewers are not flushed with a sufficient quantity of water to carry off the accumulating filth. Cow stables and hivery stables are allowed in the very heart of the city, the wooden floors of which allow the urine and dissolved fecal matter to percolate into the soil. Twelve hundred cesspools, built of loose brick in the sand of the streets, are receiving kitchen slops; water-closet and bathtub washings add no little to the soil contamination, and the mephitic gases emanating from these closets have no other outlet than the waste-pipes from the houses.

The history of Savannah shows (see article on yellow fever in Savannah in 1876 in transactions of the Medical Association for 1877) that yellow fever did not occur here until the first years of this century, "when cases terminating in black vomit were first noticed." From 1801 to 1817 such cases were seen every year in the hospital. In 1817 an epidemic of yellow fever occurred among the foreign population. In 1820 and in 1851 the same disease attacked every class of the inhabitants alike except the negro. In 1876 the negro as well as the white suffered from the poison. In 1857 the fever, although epidemic, was not general. A few sporadic cases occurred in other years. By examining the writings of Dr. Daniel, Dr. William Waring, Dr. Arnold, Dr. Harris, Dr. J. J. Waring, and Dr. Woodhull it will be seen that yellow-fever epidemics have all been preceded by a very marked increase of malarial fevers in different forms due to bad drainage. In 1801 the swampiest part of the city was cleared and cultivated in rice or wet culture "to the very door-sills of houses," and the mortality averaged 1 in 14 of the population. In 1817 the mortality increased to 1 in 3. In 1851 the city authorities instituted the dry-culture system, and the mortality fell to 1 in 62. In 1820 the dry-culture system was neglected because "it did not pay," and the lands remained undrained, wet, and boggy. "The mortality by malarial fevers became fearful before the occurrence of the vomito" (mortality 1 in 5 in 1820). After this epidemic the wet lands were drained and properly cultivated and the mortality was reduced to 1 in 37 in 1824. No epidemic occurred until 1851. This year the swamps west

of the city were under cultivation but neglected; the lands east and west were wet and boggy from the heavy rains; malarial fevers of the worst types prevailed extensively before the outbreak of the yellow-fever epidemic. In 1876 the drainage around Savannah was in a sad state of neglect. The low lands were covered with stagnant water or were soggy, and the increase of mortality from malarial fevers over that of the preceding years was very great.

NEW YORK CITY.—Dr. John T. Nagle, deputy register, transmits the following statement of mortality October 28:

The number of deaths in New York City for the three months ending September 30, 1879, was 7,886, which is an increase of 1,311 compared with the number that occurred during the preceding three months, and of 41 compared with the mortality of the corresponding quarter of 1878, and represents an annual death-rate of 28.01 per 1,000 of the population, which was estimated at 1,097,563 in the middle of the year. The death-rate for the three months ending September 30, 1878, was 28.22 to the 1,000 of the estimated population, and the average number of deaths for the third quarter of the preceding eight years was 8,638.6. This shows a decrease in favor of the present quarter, compared with this average mortality of 1012.4 deaths. There was, therefore, a slight improvement in the health of the city during the present quarter compared with corresponding three months of last year, and a very great improvement compared with the corresponding three months of the preceding 8 years.

Table showing the mortality of the city of New York for the first, second, and third quarters of the past nine years.

Quarters.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.
First	6,535	7,510	6,967	6,552	7,842	7,633	6,002	6,664	7,576
Second	6,397	8,824	6,605	6,244	7,064	6,704	6,047	6,334	6,606
Third	7,294	9,958	9,018	8,625	9,256	8,798	8,165	7,645	7,686
Total.....	31,076	36,292	32,690	31,419	34,162	33,335	30,214	30,643	31,868

There was an increase of 13 deaths from small-pox, 49 from measles, 30 from scarlatina, and 1 from typhus fever, and a decrease of 51 deaths from diphtheria, 44 from whooping-cough, and 35 from typhoid fever during the present quarter compared with the corresponding three months of 1878. The deaths during the third quarter of the present year from small-pox, diphtheria, whooping-cough, typhus and typhoid fevers were below the average of the corresponding quarter of the preceding five years, and the deaths from measles and scarlatina were above. The number of deaths which occurred during the three months ending September 30, 1879, from small-pox, was 13; yellow fever, 2; measles, 72; scarlatina, 176; diphtheria, 101; typhoid fever, 58; typhus fever, 2; and cerebro-spinal fever, 30; and the number of cases reported of small-pox was 21; measles, 429; scarlatina, 546; diphtheria, 258; typhoid fever, 151; typhus fever, 8. There was, therefore, 1 death to every 1.61 cases of small-pox reported; 1 to every 1.166 of cerebro-spinal fever; 1 to every 3.958 of measles; 1 to every 3.102 of scarlatina; 1 to every 2.554 of diphtheria; 1 to every 2.666 of typhoid fever; and 1 to every 4 of typhus fever. The average age of those who died during the quarter, from small-pox, was 9 years, 7 months, 12 days; measles, 1 year, 8 months, 19 days; scarlatina, 7 years, 9 months, 28 days; whooping-cough, 1 year, 1 month, 16 days; typhus fever, 24 years, 6 months; typhoid fever, 26 years, 5 months, 2 days; cerebro-spinal fever, 6 years, 9 months, 21 days; and malarial fevers, 21 years, 4 months, 7 days.

YONKERS, N. Y.—Dr. G. B. Balch, late health officer, writes as follows, November 6:

It appears by the report of Dr. George M. Ockford (BULLETIN, November 1, page 152) that small-pox appeared in the State of Vermont in October. The disease was imported from Montreal, Canada, where a great many deaths by the disease are reported. Except in Vermont and San Antonio, Tex., small-pox has not been known to exist in the United States for some months, while in Montreal it is almost an epidemic. That it would be imported into the United States from Canada was almost certain, owing to the class of people among whom the disease prevails in Canada. I refer to the French Canadians, or "Kanneks," as they are called, who are a mongrel race, often mixed with Indian, and speak a French patois. These people are very ignorant and superstitious, and, consequently, live in filth and squalor, utterly regardless of all sanitary requirements. In former years they were quite numerous in the northern part of New York, about Plattsburg, on Lake Champlain; but, thanks to the enlightening influence of our public schools, they are very much improved in this State, and we number among our best citizens some of their descendants.

I have known as many as a dozen persons with several dogs to live, eat, and sleep in a room with not more than 2,500 cubic feet of air-space. They are very social, visiting from house to house and village

to village. It seems important that some measures should be taken to prevent the importation of small-pox from Canada. In 1873 small-pox was imported into Plattsburgh from Canada, and raged very extensively among the laboring class. Previously to this time, to my knowledge, it had been repeatedly imported from Canada into New York State. No State needs a State board of health more than the States of New York and Vermont.

SHELBYVILLE, TENN.—Dr. C. C. Fite, president of the board of health, writes as follows, October 30:

Compared with the summers of several years past, the last has been unusually free from malarial fevers and diseases of children. This has been especially observed in certain localities formerly noted for the prevalence of such diseases, and the result is to be ascribed to improved sanitary arrangements. The public are becoming more and more interested in this work, and the town authorities have acted judiciously. During December we hope to straighten and grade the "branches" that run through the town and serve as natural drains, so that water may not become stagnant in them, as at present. Our board of health consists of the mayor, three physicians, and one business man, all of whom serve without compensation.

MONTREAL, CANADA.—Health Officer Dr. A. B. Fauroque makes the following report for August and September, 1879:

August.—Three hundred and seventy-eight deaths, of which 202 were males and 176 females; 99 adults and 279 children, 154 under 5 years. The principal causes of death were: small-pox 38; diphtheria, 9; typhoid fever, 9; diarrhea, 54; dysentery, 6; cholera infantum, 28; consumption, 24; other lung diseases, 17. The annual rate was 33.6 per 1,000, the population being 135,000.

September.—Two hundred and ninety-three deaths; 142 males, 151 females; 105 adults, 188 children, 135 under 5 years. Deaths from small-pox, 88; scarlet fever, 3; diphtheria, 9; typhoid fever, 7; diarrhea, 25; dysentery, 3; cholera infantum, 9; consumption, 20; other lung diseases, 17. Annual rate of mortality, 26 per 1,000.

Though 76 deaths were caused by small-pox in the two months, it is stated that this number is 76 less than that for the same period of last year. The board of health have ordered a sanitary map of the city to be prepared.

SAN ANTONIO, TEX.—November 8, Dr. Jos. R. Smith writes that there were 3 cases of small-pox in Fort Davis during the month of October, and 1 ended fatally. The disease, as an epidemic, is believed to be checked; no new case having been reported since October 15.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

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TULLIO S. VERDI, M. D., &c., 815 14th st. N. W., Washington, D. C.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, NOVEMBER 22, 1879.

[No. 21]

SANITARY GEOLOGICAL SURVEYS.

Of the various elements that make up the harmony of man's environment no very great amount of attention appears to have been paid to the influences of the earth considered in its sanitary geological aspects. That such consideration will furnish useful results as to the etiology and prevention of disease may be rendered evident by a few prominent examples; thus the influence of a humid soil in the production of consumption, the effects of decomposing laterite and the upturning of virgin soils rich in the products of decomposing organic matter in the production of malaria, the probable association of the rise and fall of the ground-water with the spread of cholera are all well determined phenomena. The character of these soils however has not been fully made out save in the general way that they are all more or less retentive of moisture or rich in the products of decaying organic matter. Again, the influence of soils in promoting the oxidation of organic matters undergoing putrefactive fermentation is known to all persons acquainted with "dry earth conservancy," but the rate of such oxidation and the character of the soils which promote such change rapidly are not yet exactly determined. Cesspools passing through varying strata render such strata "excrement sodden" according to their various degrees of permeability and porosity to air and water. The areas and depths of such contamination as well as the porosity, permeability, and retentive power for air and water of the varying strata as well as the different rates of their promoting the oxidation of organic matters as well as their direct influence in the production of many of the zymotic diseases, are facts whose values are yet to be determined.

The depth and inclination of the ground-water with the varying influences that promote or arrest its slow tidal movement and its furnishing aqueous vapor to the air affecting many disease movements are yet unknown quantities.

The permanent lowering of this ground-water by deep drainage has been followed by increased salubrity in the districts so drained, the superficial soils becoming less humid. There is positive proof that in the Maremma the sinking of shafts through the underlying volcanic tufa—which otherwise retained the soil moisture in close proximity to the surface—thus draining the soil, has been followed by increased salubrity in such districts historically known as the source of deadly malarias. The depth, inclination, and extent of the permanent water-bearing strata as to their probably furnishing supplies of potable

water, and the characters of such water as found in the chalks or oolite as to their potability are evidently worthy of examination and record.

The period and formation to which the district belongs, the character of the surface rocks and soils, the width, extent and dip of underlying strata, the area of clay seams, the character of the underlying solid rock, the existence of mineral springs, their depth, quantity, constituents, temperature, strata from which originating, the existence of volcanoes with their attendant seismic phenomena, the presence of organic breccias, marl pits, peat bogs, caves, calcareous sands, the gradual elevation or depression of the land, the erosion of river banks, the limestone formations with their attendant diseases, and the geological conditions favoring the production of goitre and cretinism are some of the subjects at present suggested for the consideration of the sanitary geologist. They all, more or less, have their influence in determining the healthfulness of a district, and many of them are well-known disease-producing agencies, yet within the reach of preventive medicine through the science of sanitary engineering.

SANITARY INSPECTIONS OF STEAMBOATS.

The following action of the authorities of Vicksburg, Miss., is of the very highest importance, as it fully recognizes the value of sanitary inspection in the modern quarantine:

A special meeting of the mayor and board of aldermen was held at City Hall on Thursday evening, November 6, 1879. Present Hon. R. F. Beck, mayor, Aldermen Spurgeon, Trolbridge, Worrell, Forbes, Carroll, Bann, and Birchett. The city clerk being absent, on motion of Alderman Birchett General John D. Freeman was appointed secretary *pro tem*. Upon the mayor stating the object of the meeting, the following resolutions by Alderman Birchett were adopted:

Whereas the board of mayor and aldermen being informed of the action of the National Board of Health at New Orleans for the protection of the public health during the existence of yellow fever there during the past summer, in exacting thorough cleanliness of all steamboats and other vessels on departure from that city, and the prohibition by the same of all persons, furniture, or freight dangerous to places of destination; Therefore

Be it resolved, That we cordially approve of the said action of the National Board of Health, and request a continuance and extension of the same system of inspections and exactions also to railroad stations and transportations, at all times and places when and where yellow fever or other epidemic diseases dangerous to the public health appear.

Be it further resolved, That we cordially approve of the suggestion of the National Board of Health to establish inspection stations, with provision for the care of the sick, on all lines of steamboat and railroad communication with places where yellow fever or other epidemic disease is declared dangerous to the public health.

Be it further resolved, That we respectfully request of the National Board of Health that Vicksburg be made an inspection station for steamboats.

Be it further resolved, That Congress should make it the duty of the National Board of Health to declare when any epidemic or infectious disease exists dangerous to the public health involving the

Report of mortality in cities of the United States for the week ending November 8, 1879—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrhœal diseases.	Diphtheria and croup.	Erysipelas.	Long diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Del., Wilmington	44,000	19	39	23.7	1	2				1	1							
Del., Baltimore	400,000	54	151	19.7		24	3	12	1	5	3			9		5	1	
District of Columbia*	170,000	33	82	35.1		20	4			9	1		1	1				
Va., Norfolk	24,000	7	13	21.7		1	1	2										
S. C., Charleston	29,000	24	32	22		2												
Ga., Charleston	57,000	5	27	24.7	1	7	2			2			1	1		1		
Ga., Augusta	26,774	3	7	13.6							1							
Atlanta	41,548	3	13	16.3		1												
Rome	5,000																	
Fla., Jacksonville	10,000		2	10.4			1											
Miss., Columbus	5,300																	
La., New Orleans*	210,000	32	113	20.1		15	4	1				1					1	
La., Slavesport	7,000		5	37.1			1											
Ark., Little Rock	22,000	2	9			1				1								
Tenn., Nashville	27,053	4	11	21.2		3	1										1	
Chattanooga	12,000	3	7	30.4		1												
Ky., Louisville	175,000	9	29	8.6		1		6		3	1						2	1
W. Va., Wheeling	35,000	8	15	22.3		1	2	6		2								
Ohio, Cincinnati	280,000	31	81	15.6		11	1	6		6				4				
Cleveland	175,000	30	47	14.0	1	3	1	9		1			1	9				
Daxton	39,000	3	10	13.4		1		1		2								
Gallipolis	5,300		1	9.5		1												
Mich., Port Huron	8,100		3	19.1														
Ind., Evansville	37,500	2	10	13.9						1	1			1			1	
Indianapolis	97,000	12	38	19.4	1	6	2			1	6	2				2		
Ill., Chicago	337,624	73	147	14.2		13	6	22		10	1	2			12	4		
Penn., Philadelphia	400,000	1	12	15.6		2		3		1						2		
Quincy	35,000	4	14	19.8		1											1	
Wis., Milwaukee	124,000	13	32	13.5	1	3	1	2		3								
Minn., Minneapolis	52,000	7	14	11.0		2	1	2		1								
Iowa., Dubuque	30,000		7	12.2		1							1					
Kewauk	10,000		1	6.0														
Mo., Saint Louis	300,000	37	113	11.1		18	6	4	1	7	4			2		2		
Kans., Lawrence	8,175	1	4	21.6				2		1							1	
Neb., Omaha	300,000		2	3.5														
Utah, Salt Lake City	20,000	1	2	10.0														
Cal., San Francisco	300,000	2	17	13.4		6	8	7	1	4			1	1				
Sacramento	25,000	3	11	29.2		1				2								
Totals	7,889,086	1,008	4,711	17.5	7	301	80	221	7	280	50	10	11	87		55	17	

* District of Columbia has 111,000 white, 50,000 color; deaths, 47 white, 37 colored. Rate per 1,000, white, 21.5; colored, 32.6. Norfolk has 14,087 white, 9,913 colored; deaths, 4 white, 20 colored. Rate per 1,000, white, 13.1; colored, 24.1. Charleston has 15,246 white, 14,625 colored; deaths, 3 white, 1 colored. Rate per 1,000, white, 10.4; colored, 17.9. Atlanta has 25,373 white, 16,153 colored; deaths 9 white, 4 colored. Rate per 1,000, white, 18.5; colored, 12.3. New Orleans has 155,000 white, 55,000 colored; deaths, 75 white, 38 colored. Rate per 1,000, white, 2.2; colored, 36.9. Nashville has 17,585 white, 3,500 colored; deaths, 4 white, 7 colored. Rate per 1,000, white, 11.8; colored, 35.4. Chattanooga has 5,000 white, 1,000 colored; deaths, 6 white, 1 colored. Rate per 1,000, white, 39.0; colored, 13.9.

THE following reports, for the week ending November 8, are from places where burial permits are required, and having less than 5,000 population:

Bridgewater, Mass., population 3,000; no deaths. Brunswick, Ga., 3,000; no deaths. Edgartown, Mass., 1,700; no deaths. Franklin, Tenn., 1,800; no deaths. Franklin, Ind., 4,000; deaths 2; pneumonia 1, under 5 years. Milledushorough, Tenn., 4,000; no deaths. Nantucket, Mass., 3,000; 1 death.

THE following reports, for the week ending November 8, are from places in which burial permits are not required:

Allegheny, Pa., population 75,000; deaths 23; under 5 years 9; diphtheria 6, consumption 1, pneumonia 3, typhoid fever 1. Bath, Me., 10,000; consumption 2. Battle Creek, Mich., 7,500; diphtheria 1. Bay City, Mich., 19,500; deaths 1; under 5 years 1. Benton County, Miss., 11,000; deaths 2, under 5 years; 1 from diphtheria. Carrollton, Miss., 600; no deaths. Columbus, Ga., 10,000; deaths 1; under 5 years 1; malarial fevers 2, typhoid fever 1. Dallas, Texas, 20,000; deaths 13; under 5 years 1; diphtheria 1, malarial fever 1, typhoid fever 1. Dayton, Miss., 1,000; pneumonia 1. Dixon, Cal., 1,200; no deaths. Fayetteville, Miss., 3,000; deaths 2, under 5 years; pneumonia 1. Flint, Mich., 10,000; 1 death, under 5 years. Greenwood, Miss., 400; no deaths. Helena, Mont., 3,500; deaths 2; malarial fever 1. Louisiana, Mo., 5,000; 1 death, under 5 years. Mansfield, Ohio, 11,000; deaths 2; typhoid fever 1. Monmouth, Ill., 6,000; deaths 3; under 5 years 2; diarrhœa 1, diphtheria 1. Monroe, Mich., 5,846; no deaths. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; no deaths. Niles, Mich., 1,630; deaths 3; consumption 1, scarlet fever 1. Painesville, Ohio, 5,000; deaths 4; consumption 1, croup 1. Pass Christian, Miss., 4,000; diphtheria 1, under 5 years. Port Gibson, Miss., 1,100; no deaths. Ripley, Miss., 1,000; whoop-

ing-cough 1, under 5 years. Shelbyville, Tenn., 2,000; malarial fever 1. Starkville, Miss., 1,131; 1 death, under 5 years. Tampa, Fla., 4,000; consumption 1. Tuscaloosa, Ala., 4,000; no deaths. Winona, Minn., 11,760; deaths 2; under 5 years 1; malarial fever 1. Waterbury, Conn., 16,000; deaths 3, under 5 years; scarlet fever 1. Youngstown, Ohio, 17,000; consumption 1.

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TELLO S. VERDI, M. D., &c., 815 14th st. N. W., Washington, D. C.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, NOVEMBER 29, 1879.

[No. 22.]

VOLUNTEER SANITARY ASSOCIATIONS.

The organization of associations among the people for the promotion of sanitary reforms is a most encouraging evidence of the general awakening of American communities to the vital interests of the public health. The duties of such associations are threefold:

1. In towns and cities where no boards of health have yet been instituted such volunteer associations are capable of doing a most important pioneer work. Before lawfully constituted authorities can perform their functions effectually, there must be that enlightenment of the people necessary to a proper appreciation of the measures devised and executed. These measures frequently appear to be arbitrary, and the mode of execution summary, and hence ignorant communities are often aroused to violent opposition to the acts of sanitary authorities. But these arbitrary and summary methods of dealing with conditions affecting the public health are vitally important to complete success in the administration of health laws. When the people are fully alive to the varied and ever varying sources of disease in and around their homes and to the nature and effectiveness of preventive measures, a public sentiment is created, forming the basis on which sanitary administration can securely rest, however radical may be the reforms attempted. This popular education can best be accomplished at the present time by associations which are devoted to the practical study of the local and existing causes of disease. Investigations made by committees of citizens; the publication of papers, reports, and discussions in the local papers or in pamphlet form, and popular series of lectures are the methods by which such bodies soon leaven the entire community with useful knowledge relating to the public health.

2. In the absence of a board of health such a sanitary association may be protective in its work. Every member may be entitled to the aid of the association in the improvement of his own premises. Such bodies have skilled inspectors, architects, plumbers, and engineers, whose services are furnished to members gratuitously. The advantages of membership are, therefore, very great to the individual householder.

3. The volunteer association as an auxiliary to the board of health, when that is established, may be of immense importance. It has a power of sustaining the health authorities in their war on hoary and often chartered nuisances, which may be indispensable to success; or, again, it may supplement the legitimate work of the constituted boards of health, and prove itself an auxiliary organization of such force at the critical moment as to give to measures

stubbornly resisted the impetus necessary to overcome all opposition.

The volunteer sanitary association must, therefore, be regarded as a necessity in this country. Many of these associations now exist in different localities, and others are about to be organized. It is to be hoped that they will be multiplied until every town has its active citizens' sanitary association.

It will not be out of place to notice the plan of organization as an aid to those who may be interested in establishing such an association. One of the most simple and effective of these organizations is that recently established at Trenton, N. J., and its plan may be taken as a model. The following are its more important features:

Objects.—First, to promote a general interest in sanitary science and to diffuse among the people a knowledge of the means of preventing disease; second, to secure the adoption, by the city authorities, of the most effectual methods of improving the sanitary condition of the city; third, to provide its members, at moderate cost, with such skilled inspection as shall secure the proper sanitary condition of their own premises and those of other people in whom they may be interested.

Membership.—Any citizen may become a member by paying the annual assessment; failure to pay an assessment for three months after it becomes due shall cause a forfeiture of membership.

Privileges of members.—Each member shall be entitled to, first, an annual inspection of one homestead or other building, with a report upon its sanitary condition, by some competent person or persons employed and paid by the association; second, occasional supplementary inspection and advice concerning said homestead or building, as upon the occurrence of any severe or suspicious disease on the premises or during the prevalence of an epidemic; third, inspection of other buildings, either public or private, in which he may have an interest, upon such terms as the executive council may determine.

Official duties.—The executive council shall have general charge of the affairs of the association. It shall meet at least once in three months, for the transaction of such business as may come before it. It shall appoint annually, from among its own number, the following committees, each to consist of three members: 1st, a committee on the diffusion of sanitary knowledge; 2d, a committee on the sanitary condition of the city; 3d, a committee on the sanitary inspection of buildings. And the executive council may add, from time to time, such members of the association to the number of any subcommittee as may seem best to serve the purposes in hand. The committee on the diffusion of sanitary knowledge shall arrange for public meetings, prepare articles for the press and tracts for distribution among the people, and take such other measures as it may deem necessary for disseminating throughout the community a better knowledge of the conditions of health. The committee on the sanitary condition of the city shall investigate everything that may be brought to its notice which is dangerous to the public health, and consider the best methods for the removal of the same. It shall, in every practicable way, co-operate with the health authorities in their efforts to improve the sanitary condition of the city. The committee on the sanitary inspection of buildings shall present to the executive council, annually,

the names of suitable persons for inspectors, and advise in relation to their compensation. It shall exercise a careful supervision over the work of inspecting buildings and premises, and prepare rules for the guidance of the inspectors in the discharge of their duties.

Duties of members.—It shall be the duty of every member of this association to report to the executive council all flagrant violations of the sanitary ordinances of the city, or any nuisances that may come under their personal observation.

Report of mortality in cities of the United States for the week ending November 15, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
N. H.	Concord	14,000		9	33.5				3										
Mass.	Boston	375,000	55	152	31.1		25	3	15		11			2	5		6	4	
	Cambridge	50,000	6	20	30.2				1		4								
	New Bedford	27,000	6	15	29.0			3	3						1				
	Newburyport	13,000	2	6	22.3						2						1		
	Marblehead	7,500		3	16.9														
	Fall River	48,500	2	17	18.3		5		1						1				
	Plymouth	6,334		2	16.5														
	Lowell	52,000	5	17	17.0		2				1			1	1				
	Lawrence	40,000	5	10	13.0		3	2											
	Bruckton	12,000		3	13.0						1								
	Milford	10,000																	
	Somerville	23,000	2	8	18.1		1												
R. I.	Providence	101,500	2	16	23.1		6		4		2				11		1		
Conn.	New Haven	60,000	3	16	13.9			1			1								
	Norwich	17,000	3	6	18.4													2	
Vt.	Burlington	16,500		5	15.8														
N. Y.	New York	1,097,563	186	504	23.9		53	20	10	1	100	6	2	2	5	1	2	5	
	Brooklyn	564,448	88	217	20.0		34	2	21	4	47	2	2	1	2		3	4	
	Poughkeepsie	20,000		2	5.2		1												
	Newburgh	17,000		3	8.9		1				1								
	Hudson	27,734																	
	Utica	35,000		8	11.9		2				2								
	Rochester	90,000	7	28	16.2				3						3		2		
	Binghamton	18,000		4	11.6		1		1										
N. J.	Hudson County	199,000	33	85	22.3		11	1	4		2			4	12		3		
	Newark	135,000	21	52	20.5		7				7								
Penn.	Philadelphia	903,350	89	287	16.6		1	64	29		17				1		7	1	
	Erie	30,000	3	6	10.1		1												
	Reading	40,110	3	9	11.7														
	Pittsburg	145,000	40	70	25.2		6	5	20		1				6		2	1	
Del.	Wilmington	44,000	6	15	17.8				1								1	1	
Md.	Baltimore	400,000	51	137	17.8		1	18	5	5	8	1			7		9		
District of Columbia*		170,000	15	56	17.2		11	3			6						2		
Va.	Norfolk	24,000	4	12	28.0		1	1			2								
	Richmond	80,000	11	30	19.5		3		4	1	2				3				
S. C.	New Bern	7,500		10	69.5		1		1										
S. C.	Charleston	57,000	10	35	32.0		6	2	3		4						1		
Ga.	Savannah	32,656	6	20	31.9		5		4					1					
	Augusta	26,574	4	13	25.2		2	1			1	1							
	Atlanta	41,545	4	9	11.3		1										2		
	Rome	5,000		3	31.3												1		
Fla.	Jacksonville	10,000	2	2	10.4			1											
Miss.	Columbus	5,300																	
La.	New Orleans*	210,000	35	111	27.5		14	5	1		11	7					1		
	Shreveport	7,000	6	8	59.6														
Tenn.	Nashville	27,005	2	10	19.26		1				2								
Ky.	Louisville	175,000	11	12	12.5		3	1	2	3				1			3		
W. Va.	Wheeling	35,000	5	14	19.3					5	3								
Ohio	Cincinnati	280,000	30	83	15.4		9	1	7		11				5		1	1	
	Cleveland	175,000	24	48	14.3		6	2	2		2	2			9				
	Canton	39,000	8	17	21.7		2	1	4										
	Gallop	5,500																	
Mich.	Port Huron	8,900	1	1	6.4														
Ind.	Indianapolis	97,000	14	38	20.1		3		2			3		2	1		4		
Ill.	Chicago	537,624	60	145	14.0		13	4	14		13		3	2	2	16		4	
	Peoria	40,000	3	13	16.9						2					3			
	Quincy	37,000	5	12	17.9						1	3							
Wis.	Milwaukee	124,000	15	39	16.4		2		6		2	2							
Minn.	Saint Paul	54,000	8	15	15.3		1		1								3		
	Minneapolis	52,000	6	16	16.0						2							1	
Iowa	Burlington	30,000	2	2	3.5			1											
	Delaware	30,000	4	10	17.3		3	1	2										
	Keokuk	15,000	1	6	20.8														
	Saint Louis	500,000	33	96	10.6		12	4	5		6	4	1		2		3		1
Mo.	Lawrence	8,478	2	2	12.3				2										
Kans.	Omaha	30,000	6	9	15.6								1		1				
Nehr.	Omaha	30,000	6	9	15.6														
Utah	Salt Lake City	25,000	1	8	16.7		1				1								
Cal.	San Francisco	300,000	22	86	14.9		2	15	6	3	11	1		1			2		
	Sacramento	25,000	4	7	14.6		1				1	1			1				
	Vallejo	5,000	1	4	51.7		1		1										
Totals		7,936,547	1,005	2,789	18.3	12	398	86	199	7	300	38	14	24	97	1	66	23	1

* District of Columbia has 114,000 white, 56,000 colored; deaths, 28 white, 28 colored. Rate per 1,000, white, 12.8; colored, 26.1. Norfolk has 14,057 white, 9,913 colored; deaths, 8 white, 4 colored. Rate per 1,000, white, 29.6; colored, 21.0. Richmond has 46,000 white, 31,000 colored; deaths, 14 white, 16 colored. Rate per 1,000, white, 15.9; colored, 24.6. Charleston has 25,000 white, 32,000 colored; deaths, 9 white, 26 colored. Rate per 1,000, white, 18.8; colored, 42.4. Savannah has 17,323 white, 15,163 colored; deaths, 10 white, 10 colored. Rate per 1,000, white, 29.5; colored, 34.4. Augusta has 15,346 white, 11,628 colored; deaths, 4 white, 9 colored. Rate per 1,000, white, 13.7; colored, 40.4. Atlanta has 16,153 white, 16,153 colored; deaths, 6 white, 3 colored. Rate per 1,000, white, 12.3; colored, 2.7. New Orleans has 155,000 white, 55,000 colored; deaths, 75 white, 33 colored. Rate per 1,000, white, 26.2; colored, 31.3. Nashville has 17,885 white, 9,500 colored; deaths, 7 white, 3 colored. Rate per 1,000, white, 20.8; colored, 16.5.

ABSTRACTS FROM CONSULAR REPORTS.

QUEENSTOWN, IRELAND.—United States Consul Lewis Richmond sends a letter with reports from local journals on an epidemic of measles at Cape Clear; the following facts are noted:

Cape Clear Island contains about 400 people, living in wretched hovels. Measles being introduced among them from a neighboring village, the disease assumed a malignant form and attracted the attention of the local government board of health. Dr. Brodie was sent to investigate; he describes, as a type of the dwellings, a cabin 15 feet long by 8 wide and 6 feet high. In the single room nine persons, men, women, and children, sick and well, were huddled together. The one window was permanently closed, and the door and chimney afforded the only ventilation. Up to November 4, 46 cases and 16 deaths had occurred among about 100 people, and but two houses out of twenty had escaped the contagion. Active measures of relief were taken by the authorities, and there was no fear of an extension of the disease beyond Cape Clear Island, where its malignant character was ascribed to the wretched sanitary condition of the people.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

JEFFERSON, TEX.—Inspector Dr. A. P. Brown, under date of November 8, reports that quarantine at that point was raised by order of the governor of Texas. Malarial fevers are prevalent in that region, but no contagions or infectious disease.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

TRENTON, N. J.—Dr. David Warman writes as follows:

The population of Trenton is estimated at about 30,000. The city is located on the banks of the Delaware River, at the head of tide-water, thirty miles from Philadelphia. The Delaware and Raritan Canal and its feeder, the Assanpink Creek, and a long stretch of an artificial water-power, make their way through the city in various directions.

The natural drainage of the city is good, but is obstructed and diverted in various directions, and is a local cause of disease. There is an abundance of excellent water brought to every door by an admirable water-carriage system, but no adequate provision is made to get rid of the surplus or for carrying it away after it has served its purpose. We have no sewers or drains that deserve the name. Our municipality have yet to learn the lesson that the water-carriage system and the sewer system are indissoluble. Sewage is left to be a source of offense and danger to public health. The benefit of the large supply of water is thus qualified, and in low, damp places it becomes a real disadvantage. The slops and all fluid wastes are spilled upon the ground, forming mud-holes and cess pools in gardens and back yards, or in the streets, alleys, and gutters. The low and wet grounds have been filled in with street scrapings, ashes, and other refuse, and houses built in these situations with the most reckless disregard for the health or welfare of those who are to live in them. In a portion of the city a wet clay subsoil would render drainage imperative, if health or human life were believed to have any commercial value. In other portions we have a sandy, porous soil, and that has become saturated from the accumulated wastes around our dwellings. As a result, there has been an alarming increase in malarial fevers, rheumatism, and consumption. We have a damp soil and an atmosphere loaded with moisture. The entire city is honeycombed with cess-pools and privies, and our soil is reeking with the effluvia and excreta of ten thousand families, that have been accumulating for almost a century.

The privy system is faulty. The privy vaults being built with porous bricks, and in many instances mere holes in the ground, allow the percolation of soluble excreta and liquid portions into the soil, and their semi-solid contents are allowed to remain undisturbed for many years, evolving miasmatic gases night and day. Indeed, we have a privy atmosphere. The fair exterior of Trenton covers a horrible underground mass of foulness which pours its putrid poisons and noxious stenches into the air through the thousand outlets.

There is no organized system by which garbage is carried away. In some parts of the city it is fed to pigs on the premises. From the more thickly settled parts it is taken away in baskets, pails, or wheelbarrows. Garbage is often thrown into the streets, alleys or on rear of lots; sometimes at night thrown into the streets.

The best sanitary improvement would be a complete system of sewerage,—by which not only surface water, but all solid matter that can be drained should be carried beyond the city limits,—and the employment of carts to take away all other garbage which accumu-

lates in every house, before it is allowed to putrefy and poison the air of a whole neighborhood.

We have a "board of health" created by ordinance of the city council, but it has no legal power. No provision is made for city sanitary expenses. A citizens' "volunteer sanitary association" has been recently organized and is already doing much good, with a promise of great future usefulness. There seems to be much diversity of opinion on questions of sanitary science among the people here, and a disposition to follow the old traditions with regard to the removal of filth. Burial-permits are required, and I will transmit you the weekly mortality reports in a short time.

PEORIA, ILLINOIS.—Dr. John N. Niglas, health officer, in his report for the year 1878, remarks upon the general improvement in sanitary matters which has resulted from the establishment of a State board of health. The number of births is stated at 670, of which only 3 were colored; there were 343 males, 302 females, and 25 unknown; still-births, 29, 14 male, 15 female. The greatest number of births per month was 65, in March; the least, 34, in June. The total number of deaths was 370, of which 190 were males, 160 females, and 20 unknown; under 5 years, 101; over 70, 33. The population being estimated at 40,000, the rate of mortality was only 9.25 per 1,000. Among the causes of death were: consumption, 51; diarrheal diseases, 25; diphtheria and croup, 30; erysipelas, 3; acute lung diseases, 15; malarial fevers, 12; puerperal disease, 1; scarlet fever, 3; typhoid fever, 7; whooping-cough, 1; and yellow fever, 1.

MISCELLANEOUS.

PORT GIBSON, MISS.—The mortuary reports from this town of 1,100 inhabitants record 6 deaths from July 1 to October 15, giving an annual rate of 19.4 per 1,000. The causes given are diarrhoea 1, pneumonia 1, dropsy 1, enteritis (infant) 1; two of the deaths were of strangers arriving sick and dying shortly after.

MEMPHIS, TENN.—Dr. R. W. Mitchell, member of the National Board of Health, reports 8 deaths from yellow fever for the week ending November 8. No official report of new cases during the week to the local board of health, but Dr. Mitchell is satisfied that several cases have occurred.

ELIZABETH, N. J.—The reports from this city are for the four months beginning June 15 and ending October 15. The causes of death are not given; the deaths for the four months were respectively 32, 56, 35, and 29 per month; total, 152. The population being 25,000, the annual rate of mortality was 16.3 per 1,000.

FORT MCINTOSH, TEX.—Assistant Surgeon J. H. King, United States Army, under date of November 10, reports a case of small-pox in the town of Laredo, Tex., near the fort. The patient is a Mexican, and there are no cases among the United States troops or citizens.

FORT CLARK, TEX., November 13.—W. F. Waters, assistant surgeon, United States Army, reports a case of small-pox in the fort, occurring in a soldier arriving on the 7th instant from Fort Brown, and supposed to have contracted the disease on the march.

FORREST CITY, ARK.—Dr. J. B. Cummings reports, under date of November 22, that four cases of yellow fever have occurred at that place since November 1, and two have died.

HAVANA, CUBA.—Advises to November 12 report the sailing of the following vessels, which had yellow fever on board while in port: American brig *John Welsh, Jr.*, for New York, November 9; American brig *Ortolan*, for Delaware Breakwater, November 8; Spanish barks *Antonieta*, for Charleston, November 4; *Augusta*, for Wilmington, November 6; *Resuelta*, for Savannah, November 9, and Spanish brig *Torbellino*, for the same port, at the same date. In the city there were fifteen deaths from yellow fever for the week ending November 8.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, DECEMBER 6, 1879.

[No. 23.]

STATE BOARDS OF HEALTH.

Twenty States now have boards of health; eighteen States have no such organization. It is an interesting fact that, though Massachusetts first organized such a board, the younger States of the West were the first to follow her wise example. Michigan and Minnesota followed immediately, and later Illinois, Wisconsin, Colorado, California. The Southern States promptly took up the reform, Virginia being the pioneer, and now most of the States of the South have their State boards of health. It is surprising that in the midst of the universal agitation in favor of organized methods to control the spread of contagious and infectious diseases and the oft-demonstrated power of systematic efforts on the part of the State and of States to stay the progress of epidemics, that several of the large and most centrally located States still hesitate to unite their powers with others to control and stamp out our common domestic pestilences. The question may well be asked, shall such important States as New York, Pennsylvania, Ohio, Indiana, Missouri longer remain outside of this league? Are they so exempt from such wasting diseases as scarlet fever, diphtheria, measles, whooping-cough, and small-pox that they have no need to exercise vigilance in the adoption and enforcement of preventive and protective measures? Their mortality returns prove quite the contrary. It is true that they are not in immediate danger of yellow fever or cholera, but if their statesmen will examine the long catalogue of communicable diseases which destroy the lives of the people they will find that plagues far more fatal to human life are at this moment spreading unchecked through every community.

As the season approaches for the meeting of State legislatures it becomes an imperative duty to appeal to the legislators of these States to secure the passage of the necessary laws organizing State boards of health. It is assumed that every statesman regards the good health of the people of his respective State, and especially their freedom from widespread epidemics, as the crowning blessing of each year. It must be apparent to him, as the guardian of the various interests of the State, that the public health is not only the basis of true material prosperity, but is also the most powerful conservator of public and private virtues and of domestic happiness and contentment. These facts are now so thoroughly appreciated in England, where sanitary works and administration have accomplished remarkable social revolutions among the laboring classes, that its leading statesmen, Lord Beaconsfield and Mr. Gladstone, have declared that the highest concern of government must be in the adop-

tion of measures designed to preserve and improve the public health.

A State board of health, with adequate powers, properly constituted, and provided with ample funds, is a first necessity in any organized effort of the State to care for the public health. Of the value of such boards in States where they have been long established we have abundant testimony. Governors of those States, members of the legislatures, and the citizens generally, unite in commending the beneficent work of these boards. Their special functions are: first, the organization and management of methods of collecting vital statistics; second, the direction of inquiries into the causes of prevailing diseases and epidemics; third, the investigation of permanent sources of sickness in localities, as cities and towns; fourth, co-operation with local boards in the abatement of nuisances and in the improvement of local conditions affecting the public health.

One of the results of the work of the State boards is the organization of local boards. These should be formed in every city and incorporated town and be endowed by statute with powers adequate to the prompt removal of all nuisances dangerous to life and detrimental to health. Where properly organized State and local boards exist the improvement in conditions affecting the health of the communities of the State has been most gratifying; gross nuisances have been abated, pure water has been supplied, and drainage and sewerage have been accomplished. As a consequence of these improvements, annually recurring diseases, as intermittent and typhoid fevers, diarrhoea, and dysentery, have ceased to recur or appear in mild forms. Through the vigilance of such boards other fatal diseases, as diphtheria, small-pox, scarlet fever, &c., have been far less prevalent and dangerous.

CHOLERA IN JAPAN.

The following note, dated December 1, is sent to the National Board of Health from Hon. W. M. Evans, Secretary of State:

Referring to previous correspondence on the subject, I have to inform you that it appears from recent dispatches received from Mr. Bingham, the minister of the United States to Japan, that official reports of Asiatic cholera in that empire show that the total number of cases, from the commencement of the epidemic in April last up to the 11th of October, was 153,186, of which number 86,611 proved fatal; and that subsequent official returns of the whole number of cases show that up to the 21st of October 156,201 persons were attacked during the prevalent epidemic, of whom 89,702 have died of the disease, being a mortality of 57.13 per cent. of the whole number of cases; and that it is also reported that the epidemic had virtually ceased throughout the empire.

Mr. Bingham expresses the opinion that the number of deaths by the disease would have been much less if the Government of Japan had been aided, instead of being resisted, by certain foreign powers in its endeavor to prevent the spread of the contagion by land and maritime regulations, and says that it affords him gratification to

know that the efforts of the Government of Japan to save the people of that empire from the pestilence were seconded by this government.

ABSTRACTS FROM CONSULAR REPORTS.

BORDEAUX, FRANCE.—United States Consul C. Gerrish states that weekly reports cannot be obtained from the local board of health; monthly returns will be furnished.

TENABAKANA, ARR.—Dr. E. T. Dale reports, November 10, extremely dry weather since early in September; the malarial fevers of that region have assumed a typhoid form.

ISLANDS OF MALTA AND GOZO.—The report from these islands, for the month ending October 15, shows a total mortality of 337, or an annual rate of 26.3, the population being estimated at 153,500. The only causes named are typhoid fever 11 deaths, and diphtheria 1; the general sanitary condition is considered good.

CONSTANTINOPLE.—United States Consul G. H. Heap has obtained reports of the number of deaths for 1877, from March 1; for the year 1878, and for the first five months of 1879. As the diseases are not stated and no estimate of population is given, neither the rate of mortality nor the mortuary statistics of the city can be presented from the report.

MANCHESTER, ENGLAND.—United States Consul Albert D. Shaw reports the general sanitary condition of this city as most admirable. The water supply is ample, and the sewers are daily flushed with pure water. The population is estimated at 500,000, and the annual rate of mortality for the third quarter of 1879 at 20.5 per 1,000.

PORT LOUIS, MAURITIUS.—United States Consul H. C. Marston, forwarding reports from September 21 to October 12, remarks that the sanitary condition of the town is of the worst description. The average annual mortality, however, was not excessive for that climate and people, being 35 per 1,000. Typhoid and malarial fevers were the prevailing diseases; the mean temperature was 70°.

ST. THOMAS, WEST INDIES.—United States Consul V. Smith sends a report for the two weeks ending October 15. In a population of 15,000 there were 21 deaths, giving an annual rate of 36.5 per 1,000. No contagious diseases appear, and the principal causes of death were consumption, 4, and malarial fevers, 8. The mean temperature was 75°, and the general sanitary condition of the island is reported very good.

HOLLY SPRINGS, MISS.—Dr. F. W. Dancy reports 4 deaths for the month of October; population estimated at 3,000, and annual rate of mortality 16 per 1,000. Dropsy, dysentery, and convulsions were the causes of death, so far as known. The writer is convinced that yellow fever will not again appear at Holly Springs if persons and packages from infected districts are kept out, which will hereafter be done.

NEWCASTLE-ON-TYNE, ENGLAND.—The consular report for the week ending November 1 shows that scarlet fever is epidemic in this city. Thirteen deaths are reported for the week from that disease out of a total of 64. Diseases of the lungs caused 15 deaths during the week. The population being estimated at 146,948, the annual rate of mortality was 22.7 per 1,000. The drainage of the city is excellent and the general sanitary condition very good.

BUENOS AYRES.—United States Consul E. L. Baker, under date of October 21, states that weekly sanitary reports cannot be obtained, as the mortuary and sanitary statistics are only published monthly; and now, during the absence in Europe of the editor of the *Revista Medica*, none are printed. There has been no return of yellow fever since the epidemic of 1871, and at present there is no contagious disease of any kind in the city, except a few cases of small-pox and typhus fever.

TANGIER, MOROCCO.—Under date of September 21, United States Consul Felix A. Matthews, president of the local board of health, gives the reports of Drs. Schmidt and Ysem, who had been appointed to investigate a disease reported as cholera at the port of Larache. The inspectors concluded that the disease was dysentery of a malignant form, caused by improper diet and unwholesome surroundings. They thought the mortality had been greatly exaggerated, and the disease would not justify quarantine.

GHEENT, BELGIUM.—Consul A. Lefebvre, under date of November 17th, sends a condensed statement of mortality for the month of October. In a population of 130,000, there were 340 deaths, giving an annual rate of 31.4 per 1,000. There were 201 under 5 years; 2 from 6 to 10; 1 from 10 to 15; 13 from 15 to 30; 35 from 30 to 50; 45 from 50 to 70; and 34 over 70. No epidemic prevailed and no increase in the usual zymotic diseases. Of births, there were 330 legitimate; 168 males, 162 females. Illegitimate, 57; 32 males and 25 females. Total, 387; 200 males, 187 females. Marriages, 62. For September report, see page 160 of the Bulletin.

CORPUS CHRISTI, TEXAS.—Under date of November 22nd, Dr. T. S. Burke writes as follows:

The State quarantine of Texas closed on the 7th of this month. The coast quarantine for this section is located at Shell Bank, twenty-three miles from this city, and eight miles from Aransas Pass. On the evening of the 3d instant, I was requested by a physician to visit two cases, which I had no hesitation in pronouncing small-pox. One, previously vaccinated, had varioloid; the other, unprotected, had discrete small-pox, and both are doing well. Every precaution, by disinfection, &c., is taken to prevent the spread of the disease. Both cases are traced directly to contagion from a Mexican from San Diego, where the disease has existed for the past two months.

GENOA.—CONSULATE OF THE UNITED STATES.—United States Consul Hon. J. W. Hazleton, under date of October 16, writes as follows:

The sanitary officers of this city inform me that at present they are unable to furnish the desired statistical information, but will do so ere long. They are now engaged in writing an annual statement showing the number of deaths, nature of the diseases, &c., and have completed it as far as July. They further seem to take an interest in the matter, which is very satisfactory.

I beg leave to state that the health of this consular district is generally good. For more than one year there has been no contagious disease, no epidemic, plague, cholera, or infectious disorders. The city of Genoa is well drained, and the streets are kept clean. The summer has been cool and pleasant, and the autumn, although it has brought considerable rain and discomfort, has not materially increased the amount of sickness so far as I can learn.

VALPARAISO, CHILI.—United States Consul Lucius A. Foote sends a sanitary report for the month of September, 1879, being unable to obtain weekly reports. He states that the number of cases cannot be accurately obtained, but for small-pox, which was declared epidemic in the city, the cases were estimated at 500 for the month. The report gives the number of deaths in September from small-pox alone as 399; the total number of deaths was 973, and the population being 101,088, the annual rate of mortality was 115.5, small-pox causing 41 per cent. of the deaths. For the month of August there were 723 deaths, of which 156 were from small-pox. The drainage and sanitary condition of the city are reported as very bad.

Consul M. M. De Lamo transmits the following communication from Foo Chow, October 13, 1879:

Although no official report seems to be called for from this port, an account of the sanitary condition of the city and its surroundings, and its influence upon the foreign residents of the port, may not be without some interest.

Foo Chow, one of the original five treaty-ports, is the capital of the province of Fuh-Kien, and contains a population, within the city walls and the immediate suburbs, estimated at one million or more. Like all cities of importance in China, it lies at some distance inland, say thirty-five miles from the mouth of the river Min, upon which it is situated. It is built upon a low plain, through which the river takes its course, and lies about three miles from its banks, with which, however, it is connected by a densely populated line of suburbs stretching from the river-side to the city walls. The plain is surrounded by a low range of mountains, the base of which is from three to eight miles distant from the city walls.

The city proper and the suburbs mentioned lie on the north or north-western side of the river, while another suburb, called "Nantai," and situated on the southern bank of the river, at an elevation of 100 to 150 feet above the river, comprises the "foreign settlement."

The drainage of the city and the suburbs connecting it with the river is bad indeed, and little or no attention is paid by the authorities to its sanitary condition; and to Europeans and Americans it is a source of wonder that epidemic diseases are not almost constant with the native population. Stagnant pools are of frequent occurrence, and it is known that the natives use the water from these pools for tea and other culinary purposes, without filtering. The sewers underlying the streets, ever full of the most noxious filth, send forth a stench which is almost stifling to foreigners. The tenements, which literally cover the whole surface of the city and are packed with human occupants, also furnish shelter for pigs, cows, and fowls, and still it may be said that the people are generally healthy.

The site of the "foreign settlement" is susceptible of complete drainage, is interspersed with groves of fir trees, is almost constantly fanned by a sea-breeze from the southeast, and may be said to be exceptionally healthful.

During my residence of ten years at the port, cholera in a mild form has visited the native population on several occasions, but it has not extended to the foreign residents, except in one single instance, in which it proved fatal in only one case. Small-pox is common among the natives at all times; in fact, they inoculate the disease in the children; yet I have never known of its becoming epidemic, nor has it appeared among the foreign residents except once, when it was imported from a neighboring port, and by a European. I have never known of a case of yellow fever here, nor plague, nor has typhus fever ever been epidemic here as far as I can learn.

The anchorage for foreign shipping is some ten miles below the city and settlement, and foreign seamen are seldom seen out of the limits of the anchorage. There is but a small native settlement at the anchorage, and no contagious disease has ever prevailed there during my residence at the port.

General slothfulness and indifference to comfort, cleanliness, or the sanitary condition of their abodes are characteristic of the Chinese generally, and it seems to me that nothing short of special interposition of Providence in their behalf can prevent a constant existence of contagion or plague in their overpopulated cities.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of five cents per copy. Notice of at least one week should be given when a large number is required.

NATIONAL BOARD OF HEALTH rooms are at 1110 G street, northwest.

ABSTRACTS OF SANITARY INSPECTORS' REPORTS.

MORTUARY REPORT FOR NAVASOTA, Grimes County, Texas, from 1st of January to 15th of November, 1879; Latitude 30° 31'; population estimated at 2,500, about half of them white, half colored; by A. R. KILPATRICK, M. D., Inspector National Board of Health:

This is a railroad town, begun in 1859, situated in flat, Hog Wallow Prairie, and partly on sandy, Post-Oak Ridge, six miles east of the Brazos River and two miles south of the Navasota River. There are slashes or shallow ponds on the east and south, which hold water in the winter and in wet weather, but dry up in the summer. There are cultivated farms on all sides of the town, and nearly all the residences in town have gardens and cultivated patches in the spring and summer. The streets are not paved; only part of the sidewalks are paved with flat rocks on the two main streets. The drainage is only by shallow surface ditches. Only a few stores are made of rock and brick; all the residences are wooden buildings, generally only one story, and situated low, near the ground. The habitations of the colored people are very inferior, cheap, wooden shanty huts, and no attention given to sanitary measures. The privies are generally not arranged with vaults or pits, and cleaned only twice or three times in a year. There is a sluggish, small stream passing through the town, which is dry about half the time, or having pools of filthy water—this summer quite dry. The writer of this has kept a mortuary register here several years, and in years past the deaths have been less than twenty, all told, except in 1896, when there was epidemic cholera, and in 1897, when there was epidemic yellow fever; during this last epidemic there died over three hundred, all told. The present year has been unusually dry, very little rain (not one inch in depth in all) having fallen since the 23d of April. On that day there was one of those remarkable rainfalls, or "water-spouts," to a depth of 10 inches, overwhelming the earth and washing the fields in a destructive manner. The whites mostly use cistern-water for drinking and cooking, but the absence of rain has caused them to use well-water, which is charged with lime and other alkalis. Owing to the absence of rain the gardens are ruined and vegetables are very scarce, and are obtained mostly from Kansas and Missouri. The high price of essential food and vegetables prevents their general use. Several deaths are reported in the accompanying mortuary table, caused by dysentery or flux, which has prevailed generally in this county and all adjacent counties, caused, no doubt, by the change of drinking-water and the scarcity or absence of vegetable diet. During the summer the temperature has not been elevated above the ordinary range, although there have been only light hoar frosts twice or three times, and thin ice one morning about the 24th of October, since which the thermometer during the day has ranged between 70° and 86°. All the time in October and November there have been strong, brisk south winds, with cumuli and nimbus many days, attended with drizzles and light sprinkles, not enough to run from the roofs. All these causes have produced not an unusual amount of sickness, but an unusual number of deaths, mostly resulting from congestion of the abdominal viscera, manifested by dysentery or bloody flux. The number of deaths up to date is 13, all told; 16 whites, 27 colored. White males, 8; white females, 5; colored males, 11; colored females, 16; unknown sex, colored, 1. Total under 1 year, 15; white males under 1 year, 2; white female, 1; colored males under 1 year, 6; colored females, 6; still-born, white, 2; still-born, colored, 2; from 1 to 5 years, 1 white female, colored, 1 female. Died in January, 7; February, 6; March, 5; April, 3; May, 1; June, 1; August, 5; September, 7; October, 3; November, 2. In August all the deaths were white adults. Only 1 died from bilious fever, while 8 died from congestion, without enumerating the diarrhoea, cholera-morbus, and dysentery cases, which all had enteric congestion, necessarily.

WATER SUPPLY FOR CITIES.—Dr. J. Chandler, of Memphis, Tenn., proposes to supply water to cities by the following method:

At any desired distance from the city include a field of the required area, to keep out animals and persons, with a fence, and a sufficient embankment to prevent outside water from washing in. The surface should be so graded as to allow all the rainwater to fall to one side of the field, where it should be received into one or more reservoirs of a proper capacity. If possible, the site of the field and reservoirs should be of sufficient elevation above the city to force the water for distribution by hydrostatic pressure. The surface of the field might perhaps be protected by being seeded down in grasses or be macadamized. If such an elevation could not be obtained, the water could be pumped from the receiving reservoir into a second elevated reservoir. The water, being intended only for drinking and cooking purposes, would require to be carried only to the first floor of buildings. The required area of the field would vary with the locality, the amount of rainfall varying with different localities. For Mem-

phis, allowing for each adult and child one-half gallon per day, and basing the estimates upon the minimum amount of rainfall for six months during the summer season, the season of least rain, as deduced from observations for four years, the required area of the field for a population of 50,000 would be 12 acres, or 9.6 for 40,000. Taking the mean amount of rainfall for the whole year, deduced from observations for four years, the required area of the field would be, for

a population of 50,000, 6.5 acres, or 5.2 for the same allowance for 40,000. When a field of sufficient elevation can be obtained to dispense with pumping the water into an elevated reservoir, the expense of this plan will be very moderate, as the main pipes leading to the city need not be large. This would afford pure country rain-water. The water supply now in use in cities should be continued for all other purposes than drinking and cooking.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Total deaths.	Annual rate per 1,000.	Thermometer.		
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.					
1879.																				
Vancouver's Island	Victoria	4,000	Nov. 15													2	26.0	51.0		
Canada	Montreal	135,000	Nov. 15					14	3					5	71	27.4	43.3			
Do	Kingston	16,000	Nov. 22												1	3.2	27.0			
Do	St. John's	5,000	Nov. 22													2	8.7	30.7		
Do	Charlottetown	12,000	Nov. 22												2	16	18.1	29.7		
New Brunswick	St. John	46,000	Nov. 22					4	1	1	1			3	1	14.0	74.3			
Bermudas	Hamilton	11,867	Nov. 11													5	5.5	71.6		
Do	do	11,867	Nov. 18													12	30.9	82.0		
Cuba	Cienfuegos	20,218	Nov. 13			1	1			2	2			1	1	11	28.4	82.0		
Do	do	20,218	Nov. 20													20	65.8	82.5		
Barbados	Bridgetown	21,363	Oct. 11							1	1					19	62.5	82.8		
Mexico	Vera Cruz	15,850	Oct. 26													77	7.7	84.0		
Do	do	15,850	Nov. 2													70	28.8	84.0		
Do	do	15,850	Nov. 9													91	37.5	84.0		
Brazil	Pernambuco	126,575	Oct. 17					18								6	18.8	74.0		
Do	do	126,575	Oct. 24					21	1							22.0	73.2			
Do	do	126,575	Nov. 1					10								2	13.7	71.0		
Tonelle	Santa Cruz	16,610	Oct. 25											1	1	5	34.2	72.0		
Azores	Horta, Fayal	7,630	Oct. 4													2	13.7	72.0		
Do	do	7,630	Oct. 11													3	15.6			
Do	do	7,630	Oct. 18													5	26.0			
Ireland	Queensdown	10,000	Nov. 2													11	105	25.8	49.7	
Do	do	10,000	Nov. 15													11	222	20.0	46.3	
Scotland	Edinburg	212,000	Nov. 8													1	33	11.4	41.0	
Do	Glasgow	575,136	Nov. 8													17	15.5	45.4		
Do	Glasgow	575,136	Nov. 8													1	21	19.2	40.8	
Do	Leith	57,000	Nov. 15													14	63	22.3	46.0	
Do	do	57,000	Nov. 15													13	65	23.8	45.6	
England	Liverpool	338,338	Nov. 1					1		3	6			53	43	204	35.8	45.4		
Do	do	338,338	Nov. 8							1	10			26	26	101	24.3	47.0		
Do	Sheffield	297,138	Nov. 8													1	21	19.2	40.8	
Do	Newcastle-on-Tyne	146,948	Nov. 8													14	63	22.3	46.0	
Do	do	146,948	Nov. 15													13	65	23.8	45.6	
Do	do	146,948	Nov. 15					3		11				187	154	524	24.0	43.2		
France	Hyvre	92,008	Nov. 8													52	29.4	46.7		
Do	Rouen	104,902	Nov. 15													72	35.8	45.9		
Do	Paris	1,988,806	Nov. 6					15		19				29	213	23.9				
Do	Lyons	342,415	Nov. 1							6				1	170	25.8				
Do	Nice	49,777	Nov. 1					2	1	4	2					37	38.8	50.0		
Switzerland	Zurich	22,008	Nov. 8													1	7	16.6		
Holland	Amsterdam	208,958	Nov. 8							2	2					17	65	27.0	49.0	
Do	Rotterdam	147,000	Nov. 8													25	65	32.1		
Do	do	147,000	Nov. 15													13	61	21.6		
Belgium	Brussels	399,482	Nov. 8					3	1	5	2					18	7	157	20.5	45.3
Saxony	Dresden	215,410	Nov. 1													6	80	19.4	41.2	
Do	do	215,410	Nov. 8							1	1					2	73	17.7	40.3	
Do	Leipsic	145,719	Nov. 8													9	62	22.2	40.1	
Do	Chemnitz	88,397	Nov. 1													4	39	23.0	41.0	
Bavaria	Munich	90,000	Nov. 8							1	1					7	41	24.3	43.1	
Germany	Stuttgart	105,825	Nov. 8													2	32	15.8	41.2	
Do	Frankfurt	126,000	Nov. 1													2	42	17.4		
Do	Mannheim	48,000	Nov. 8													15	16.3	40.8		
Do	do	48,000	Nov. 8													15	16.3	40.8		
Do	Bremen	105,000	Nov. 1													1	29	14.4		
Do	Berlin	1,082,500	Nov. 1							23	13					124	60	453	46.2	
Do	Breslau	270,000	Nov. 1							6	2					29	23	130	25.1	43.7
Do	do	270,000	Nov. 1													4	41	29.0	43.1	
Denmark	Copenhagen	925,600	Nov. 4							11	1					6	4	140	32.5	40.1
Italy	Leghorn	97,410	Nov. 15													4	43	23.0	49.6	
Do	Naples	478,014	Oct. 4							4						9	280	32.7	75.0	
Do	do	478,014	Oct. 11													2	207	21.3	74.3	
Austria	Trieste	125,873	Nov. 1													78	32.5			
Do	Vienna	137,255	Oct. 25													17	305	21.6	45.9	
Do	Buda Pesth	209,705	Oct. 25													1	192	32.3		
Romania	Bucharest	300,705	Nov. 1							3						5	17	29.5		
Russian Poland	Warsaw	211,350	Nov. 1							6	6					169	41.7	50.0		
Sweden	Stockholm	236,703	Nov. 1							1						137	21.2	45.4		
Norway	Christiania	159,129	Nov. 1								5					33	19.4	38.9		
Do	do	113,000	Nov. 8													3	15.2	36.3		
Portugal	Lisbon	200,000	Nov. 1								5					7	3	26	12.0	34.5
Spain	Gibraltar	13,900	Oct. 1					1	1							94	24.5	55.0		
Do	do	19,000	Oct. 25													3	8.2	68.6		
Do	do	19,000	Nov. 2													10	27.4	43.1		
Do	do	19,000	Nov. 2													9	24.7	62.9		
Mexico	Malaga	115,882	Nov. 2					1								75	33.7	58.5		
Do	do	115,882	Nov. 2													28	69	10.0	43.2	
Do	Casa Blanca	6,500	Nov. 1					15	1							1	8.0	71.0		
Do	do	6,500	Nov. 8																78.0	
Barbary	Tripoli	20,000	Nov. 1													36	93.9	75.0		
Egypt	Port Said	107,500	Nov. 1													7	36.5	75.0		
Ceylon	Columbo	100,000	Oct. 18																84.4	

* The report from Berlin is for the hospitals only.

THE following reports, for the week ending November 22, 1879, are from places *burial permits* requiring and having less than 5,000 population:

Bridgewater, Mass., population 3,300; deaths 3; lung diseases, acute, 2. Brunswick, Ga., 3,000; no deaths. Edgartown, Mass., 1,700; pneumonia, 1. Franklin, Ind., 1,000; no deaths for 2 weeks. Nantucket, Mass., 3,000; 2 deaths; old age, 1.

Total population, 15,000; total deaths 6. Annual rate of deaths per 1,000, 20.0.

THE following reports, for the week ending November 22, are from places where *burial permits* are not required:

Allegheny, Pa., population 75,000; deaths 13; under 5 years 5; consumption 1, diphtheria 1, typhoid fever 1. Bath, Me., 10,000; deaths 5. Battle Creek, Mich., 7,500; 1 death. Belfast, Me., 5,278; 1 death. Benton County, Miss., 11,000; consumption 1. Calais, Me., 7,000; deaths 2; typhoid fever 1. Carrollton, Miss., 600; no deaths. Columbus, Ga., 10,000; deaths 3; consumption 2. Dallas, Texas, 20,000; deaths 1; under 5 years 1; pneumonia 1; typhoid fever 1. Davenport, Iowa, 25,000; deaths 3; under 5 years 1; consumption 1, diphtheria 1. Decatur, Miss., 1,000; no deaths. Fayette, Miss., 500; no deaths. Helena, Montana, 3,500; 1 suicide. Jackson, Miss., 5,000; deaths 2; consumption 1. Lansing, Mich., 10,000; deaths 3; under 5 years 1; consumption 1, diphtheria 2. Mansfield, Ohio, 11,000; deaths 5; under 5 years 2; consumption 1, diphtheria 3. Monmouth, Ill., 6,000; consumption 1, pneumonia 1. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; consumption 1, pneumonia 1. Niles, Mich., 1,530; pneumonia 1. Painesville, Ohio, 5,000; diphtheria 1. Pass Christian, Miss., 1,000; no deaths. Port Gibson, Miss., 1,100; typhoid fever 1. Shelbyville, Tenn., 2,000; no deaths. Starkeville, Miss., 1,163; no deaths. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 1,000; deaths 3; under 5 years 1; accidents 2. Waterbury, Conn., 16,000; deaths 2; consumption 1. Youngstown, Ohio, 17,000; deaths 3; under 5 years 2; croup 1, diarrhoea 1.

Total population 269,271; total deaths 59; under 5 years 13.

WEEKLY SUMMARY OF MORTALITY.

Reports for the week ending November 22 represent an aggregate population of 7,807,118; the total of deaths being 2,555; the annual rate per 1,000 was 17.1, having been 18.3 for the preceding week. A slight decrease in mortality under 5 years is observed also, the rate falling from 36 to 35.5 per cent. of the total mortality. Consumption has risen from 11.5 to 15.7 per cent., and acute lung diseases from 10.5 to 12.2 per cent. of total deaths. Scarlet fever also has increased, prevailing in the localities named last week, and now representing nearly 4 per cent. of the total deaths. Measles and whooping-cough are nearly stationary and not seriously prevalent. A decline in diarrhoeal diseases and in typhoid fever chiefly accounts for the smaller rate of general mortality. No deaths from small-pox or yellow fever reported.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

QUARANTINE AT PENSACOLA, FLA.—Dr. George H. O'Neil writes as follows, November 15, 1879:

Our quarantine station is located on Santa Rosa Sound, distant from the city about seven miles and known as the "Live Oak." The buildings consist of one frame-house, 21 x 30, occupied by the quarantine physician, hospital steward, cook, watchman, and three boatmen. The hospital building, 11 x 21, contains two rooms. Two miles below the station, at the entrance of the sound, is the guard station, at which point is anchored the United States monitor *Cannons*, by the consent of the honorable Secretary of the Navy, and Captain George E. Belknap, commandant navy yard. The guard consisted of an officer and three men detailed by the commandant who have performed their duties most faithfully and *efficiently*. The number of vessels which arrived was 201, many of which reached the station in a very filthy condition; vessels arriving from infected ports have been compelled to discharge all ballast *under water*, to be thoroughly fumigated with sulphur, timbers have been taken up and lined, hold whitewashed, cabin, forecabin, and deck houses cleaned, and all clothing and bedding washed in boiling water.

One vessel, the Br. bark *Mary Floy*, arrived from Rio de Janeiro. On the 12th day out two cases of yellow fever broke out, and on the 13th another case occurred; the first two cases died of black vomit. The vessel put into Barbadoes, remained there 16 days, during which

time she was fumigated with original ballast on board. The day after leaving that port another of the crew sickened and died on the passage. This vessel was placed in quarantine and required to undergo a thorough cleansing from keelson up, and no other case occurred on board or at the station. We do not boast of our work, much of which has been accomplished under great disadvantages, but what has been done, has been with firmness and decision.

By adopting a rigid system of treatment of infected ships and places, I feel satisfied, after 30 years' experience, that yellow fever can be kept out of any port.

In conclusion I would say, let more common sense be used, and less talk about theories and hunting for "hybernating germs;" relax no effort in cleaning your cities in the early spring; increase the powers of the National Board of Health over our southern seaboard, and we feel assured that all danger from the terrible scourge will be obviated.

WATER SUPPLY OF THE TOWN OF BOULDER, COLO.—Dr. Charles Ambrook thus speaks of the water supply of this town:

Primarily from the Boulder Creek, which is fed by the melting snow on the range. The way the creek winds, the water flows about thirty five miles to reach us, and falling about 5,500 feet, gives fresh melted snow, at the most, in seven hours, well aerated by innumerable cascades it passes on its way. This water is distributed to our people in three ways—town water-works, wells, and ditches. The location of our town at the mouth of the creek and cañon as they open into the plains, gives us ample facilities for water-works, which at this date supply about one-half of our people. This water, after heavy rain storms, is turbid and discolored by the washings of the feed ditch which runs along the mountain-side about a mile; but this can easily be remedied by more care on the part of the person in charge, and by a filter at the head of the main. Some of our people have used common gas pipe for service pipes; but it discolors the water with iron rust and is a mistaken economy. During the summer the creek water is clear; but during the winter, when the snows on the range melt but little, our creek is low, and the water as it reaches our people is, at times, quite milky in color, which has led many to think it contaminated with deleterious substances. My examination of it shows it to contain six and one-half grains to a wine gallon, two and one-half of which would burn. Price's test fails to show contamination, as does the permanganate of potassa. Letting the water stand a long time, then examining under the microscope, it fails to show contamination. Hence the inference is that there is no dangerous organic substance in it. As to deleterious minerals, I made a rigid application of the approved reagents in qualitative analysis, and they failed to detect the presence of the dangerous minerals. The ordinary constituents of drinking-water were present, such as carbonic and sulphuric acid, chlorine, potassa, soda, lime, magnesia, and alumina, which is believed to come from the powdered rock thrown into the water principally by a tributary of the Boulder Creek called Four-mile Creek.

STATE BOARD OF HEALTH OF GEORGIA.

DR. JAS. R. BARD states that in 1875 the general assembly enacted a law creating a State board of health, to consist of the attorney-general, comptroller-general, State geologist, and nine (9) physicians, representing the several Congressional districts in this State. This law made it obligatory upon the practitioners of medicine within the State to report all births and deaths to the ordinaries of the several counties, who, in turn, were required to consolidate said reports and transmit them to the secretary of the State board of health. The sum of \$1,500 was appropriated to carry out the provisions of the act. The active opposition to the law on the part of most of the physicians of the State, *mirabile dictu*, and on the part of the ordinaries made it necessary at the next session of the general assembly (1876) to so alter and amend the original act as to remove the penalty clause and *request* physicians to report their cases, and to provide compensation for the labor imposed upon the ordinaries.

The appropriation of \$1,500 was renewed. Since that year the legislature has refused to make an appropriation for the board, though the law establishing the board has not been repealed. During the session of the legislature just closed, strenuous efforts were made by the friends of the measure, and by a committee of the medical association of Georgia, of which the writer had the honor to be chairman, to secure necessary amendments to the law and sufficient appropriation to carry on the work. It was thought that in the light of recent experience, the terrible epidemic visitations in the Mississippi Valley, the importance of co-operating with the National Board of Health and guarding our own coast, and the attention given of late to State sanitation by the general government, as well as by many of the States themselves, that the wisdom and patriotism of our law makers might be successfully appealed to. Yet after a hard struggle the bill was defeated by ten votes in the house! hence Georgia is practically without a State board of health.

ILLINOIS STATE BOARD OF HEALTH.

Report of the Illinois State board of health on the results of the sanitary inspection of river vessels at Island No. 1, Mississippi River, October 31, 1879, H. Wardner, M. D., president:

In transmitting the accompanying summary statement of inspection and other service at the quarantine inspection station, Mississippi River, below Cairo during the season, this day closed, the Illinois State board of health begs to express its appreciation of the aid, both material and moral, which the National Board of Health has rendered it in protecting the State, possibly not from an invasion of yellow fever, but most assuredly from such interruption of travel and traffic as have hitherto uniformly followed a threatened invasion of that disease. Precisely what such interruption amounts to it would be difficult to state in dollars and cents, but an inkling of it is given in the figures in the summary statement, from which it will be seen that whereas the average vessel tonnage arriving from below, at the time the inspection system was begun, amounted to only 967.66 tons per diem, it had risen to 2,153.75 tons per diem during the last 31 days, and this in spite of an unusually low stage of water. Last year the commerce of the port of Cairo during the month of October amounted to only 48,967 tons northwise and eastwise as well as southwise, while this year it amounts to 57,137 tons for the same period. (The tonnage of barges, lighters, and flats is not included in these figures, while it is in the figures of the summary statement.)

During the period while the inspection station was in commission this year, 1,152 vessels of all kinds (exclusive of barges, lighters, and flats) entered at the port of Cairo, as against only 767 vessels during the same period last year; and notwithstanding this quarantine of exclusion in 1878, yellow fever obtained access to the port with a total mortality of 61 recorded deaths and upwards of 100 (estimated) cases. This year not a single case of the disease has developed among the 3,028 persons allowed to come into Cairo, nor among the 29,776 persons passed through the inspection station from below, notwithstanding fever occurred at 28 distinct points in the valley during the period.

Intercourse with all ports below Tiptonville, Tenn., 129 miles south of Cairo, was practically suspended at the date when inspections were begun; but as confidence in the system was established by observation of its workings and results, and by the fact the interdicts were removed, until by September 1 the sole requirement for entry of passengers or freight into the State of Illinois from Southern ports was a clean bill of health (or certificate of inspection) from the station. A comparison of the figures shows the steady restoration of river business from below: In August 56 vessels, with an aggregate capacity of 41,966.57 tons, presented themselves for inspection; in September 80 vessels, with an aggregate capacity of 57,215.00 tons; and in October 100 vessels, with an aggregate capacity of 69,667.55 tons.

It will further be seen in the summary that only 9 boats were found in such a condition as to require modified bills of health, and that while the number of vessels presenting themselves for inspection increased, as above shown, their sanitary condition also improved, as witnessed in the diminishing number of qualified bills issued: 5 in August, 3 in September, and only 1 in October. In only one instance was it found necessary to exclude a vessel from free pratique, and this, in the language of the inspector, "not so much, if at all, from fear of actual danger" as from a sense of the necessity of enforcing careful and trustworthy statements from officers of boats concerning certain matters about which the inspector must necessarily rely upon them for information.

Beginning actual inspections on the 15th of July, Dr. Ranch continued them alone, both by rail and river, until July 28. He had previously made repeated tours of investigation and observation throughout the valley from Saint Louis to New Orleans and was fully alive to the possible dangers which threatened the region. In the light of subsequent events it is conceded that his apprehensions were well founded, and that only favorable meteorological conditions prevented the value of the precautionary measures enforced from being emphasized more strikingly than they have been.

On the 28th of July Dr. Frank W. Reilly, who had recently returned, via Memphis, from an investigation of last year's fever region, was assigned to duty by this board as sanitary inspector to assist Dr. Ranch; and his salary, as well as that of two State sanitary policemen at Cairo and one at Mound City to aid in enforcing the rules and regulations of the National Board, have been defrayed by the Illinois State board.

Up to August 10th inspections of north-bound trains over the line of the Chicago, Saint Louis and New Orleans Railroad were made at East Cairo, and from that date until October 15, inclusive, they were made at Fort Jefferson, Kentucky, a station 6 miles below Cairo, in convenient proximity to the inspection station. During the season 97 trains, carrying an aggregate of 5,729 passengers and employes, were inspected; 2,335 personal certificates were examined and indorsed, and 32 certificates of inspection, *en gros*, were issued to trains. It is confidently believed that no infected person or article of baggage has been allowed to pass without proper precautionary treat-

ment. No note is made in the summary statement of the supervision of freight trains, but these, as well as the sanitary condition of passenger coaches, sleeping and baggage cars, have all been closely looked after and strict compliance with the rules and regulations of the National Board enforced.

In this connection it is proper to make mention of the willing and intelligent co-operation of the managements both of the road above mentioned and of the Illinois Central. Every facility has been afforded to the inspectors, and not only have written and printed instructions been issued to employees of the roads, but personal tours by division superintendents, managers, and other officers have been frequently made along the lines to see that the instructions were fully complied with.

From July 15 to August 10 steamboat inspections were made in the Ohio River off Cairo, but from the latter date to the close of the season they were made at the inspection station in the Mississippi River near Island No. 1, about 6 miles below the city. During the season 254 vessels of all classes, with an aggregate capacity of 184,909.50 tons, were inspected, and 15,537 passengers, officers, and others found on board were examined. To the passengers on such vessels 700 personal certificates, authorizing landing at Illinois ports, were issued. (After September 1 many boats were furnished with special authorizations—certificates *en gros*—to land all passengers at Cairo, at discretion, without requiring individual certificates.)

Among these 15,537 persons only 11 cases of medical or surgical disability were found serious enough to require treatment, and only 2 which it was deemed advisable to remove to hospital—and these for prudential reasons, the ailments not being of a contagious or infectious character. (This does not include some 10 cases of malarial fevers, cholera infantum, and diarrhea, found on boats in July before the station went into commission.) The clearly condition of the boats may be inferred from the return, which shows that only 3 out of the 254 required to be furnished with disinfectants, and these within the first week after formal inspections were inaugurated. The same ready co-operation, as noted above in the case of railroads, has been received by the officers in charge of the station from the river interest, and not only was no difficulty experienced in securing compliance with the rules, but, after the first few days of the location of the inspection boat near Island No. 1, masters and officers of vessels voluntarily sought to be inspected, having learned that by such course their business was facilitated and interruptions from local quarantines of exclusion were avoided. During the entire season only one boat passed the station without inspection—a low-pressure boat, on a foggy morning about daybreak, on her first trip up the river after the inspection boat was located, and ignorant, as it was subsequently ascertained, of the position of the station. The inspector's weekly reports and extracts from the log of the station, already published in the BULLETIN of your Board, show what apt pupils in sanitary science rivermen may be made by a few practical lessons.

Turning to the financial aspect of the question the exhibit is no less satisfactory. From the account of the quarantine inspection station with the National Board of Health (and which accompanies this report), it will be seen that the gross expenditures for all purposes have been \$3,493.57, out of which sum the hospital or inspection boat, J. W. Vansant, and equipment, together with upwards of \$300 worth of furniture, have been bought, and are now on hand ready for instant use. Deducting the value of this property on hand, viz. \$2,100.65, leaves the total expense to the National Board \$1,392.92 for maintaining the station during the season. That the most rigid economy has been exercised to secure such a result is self evident.

The Illinois State board congratulates the National Board of Health upon the successful outcome of this experiment in river and rail sanitation. It has accomplished more than all that its most sanguine advocates had anticipated; it gives promise of future security to the people of the Mississippi and Ohio Valleys from the invasions of epidemic diseases which have, it is safe to say, cost more in human life and suffering, as well as in dollars and cents, than the bullet and the bayonet; and it furnishes in itself a sufficient *raison d'être* for the existence of a national health organization.

BURLINGTON, VT.—Dr. G. M. Ockford, under date of November 10, writes as follows:

There has been no material change in the health of Burlington during the past month. Diphtheria has shown a slight tendency to increase, cases having occurred in remote portions of the city, several of which were of a fatal character. Diphtheria has been almost a constant visitor in this city for four years past. It was severely epidemic in the years 1876 and 1877, showed considerable abatement in 1878, and during the present year has only occurred occasionally.

Measles are still epidemic, but less prevalent than a month ago. At Winooski Falls, situated about two miles northeast of Burlington, whooping cough has had a habitation for some time past, and during the past month a large number of cases of watery diarrhea have occurred.

TAMPA, FLA.—Dr. John P. Wall, mayor of the city, under date of October 18, states that although burial permits are not required he is satisfied that all deaths are correctly reported. The town has been very healthy during the summer, and no yellow fever has occurred on any of the steamers carrying cattle to Cuba. He urges the importance of establishing a quarantine station for Tampa Bay.

NINGPO, CHINA.—United States Consul Edward C. Lord sends reports for the weeks ending October 4, 11, and 18, but is unable to state the population or to ascertain the number of deaths. The usual diseases of large cities prevail in Ningpo, and small-pox is rendered extremely rife in the spring by the practise of inoculating the children at that season. Dysentery and diarrhea cause a large proportion of the deaths, and cholera occasionally appears in the summer. Malarial and typhoid fevers are common, but the general sanitary condition of the city is considered "fair." The population is roughly estimated at 350,000; no vital statistics are kept by the authorities.

TAUSTALL, ENGLAND.—United States Consul E. E. Lane states that his reports should include the towns of Taustall, population, (in 1871,) 13,539; Burslem, 27,107; Hanley, 41,976; Stoke, 17,758; Fenton, 10,556; Longton, 19,747; and Newcastle-under-Lyme, 15,539. These towns are in the "Taustall District," and their present total population is estimated at 200,000. The mean annual death-rate for the county, comprising about one million of inhabitants, was 19 per 1,000 for the third quarter of 1879; and the town of Hanley showed the highest rate of mortality. The general sanitary condition of the District is good, and the authorities are vigilant and active in keeping it so.

THE NATIONAL BOARD OF HEALTH.

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National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, DECEMBER 13, 1879.

[No. 24.]

THE SANITARY CONDITION OF MEMPHIS.

A sanitary survey of Memphis, including a careful house-to-house inspection, is now being made under the direction of the National Board of Health. The work is under the direction of a special committee composed of Drs. J. S. Billings, H. A. Johnson, and R. W. Mitchell. Hon. John Johnson, member of the State board of health of Tennessee, is co-operating with this committee in behalf of the State board, and Major Benyard, United States Engineers, is acting as consulting engineer. The survey can hardly be completed before the end of January, but it was felt to be so important that the work of local sanitation in this city should be commenced as soon as possible, that the committee was authorized to make a preliminary report and recommendations, and to communicate this at once to the authorities of the taxing district of Shelby County, Tennessee, which includes the city of Memphis.

This report appears to have met with general acceptance on the part of the authorities and prominent citizens of Memphis, and steps have been taken to convene the legislature of the State on the 16th of December, and to obtain the legislation necessary to permit the authorities of the taxing district of Shelby County to levy the tax necessary to carry out the improvements suggested.

All sanitarians will watch with interest the steps taken by Memphis during the present winter to secure pure water and air for her citizens, and the results which it is hoped that the extensive municipal sanitation proposed will secure to her for the next summer and all future time.

The committee having spent a week in Memphis, having with it as expert advisers Dr. C. F. Folsom, secretary State board of health of Massachusetts, and Colonel George E. Waring, jr., in addition to the gentlemen above referred to, has presented the following report:

MEMPHIS, TENN., November 27, 1879.

SIR: From the evidence presented in detailed reports of inspections of individual premises, in analyses of water, and also from personal observation, we are satisfied that the sanitary condition of Memphis at the present time is bad, and especially so in the following particulars:

First. In many buildings are cellars or basements containing privy-wells, ranging from fifteen to fifty feet in depth, the majority of which are filled with fecal matter. Frequently in the same cellar is a cistern, the water of which is contaminated by spilage from the privy. In some cellars of large buildings near the center of the city are accumulations of excrement and filth of various kinds covering the floor. There is evidently very extensive soil-pollution in many parts of the city, as appears from the results of examinations of the water-supply of Memphis, made for the committee by Dr. Charles Smart, United States Army, which are indicated in the following summary:

"Fifty waters examined, of which 36 are from sunk cisterns, 1 from round tank or reservoir, 5 from wells, 1 from Elmwood Creek, 6 from Wolf River, and 1 from Mississippi River.

"Of the 36 cisterns 10 are in sound condition and 26 leak. The waters they contain may be classified as follows:

	Good	Fair	Bad from foulness of cistern.	Bad from infiltration of sewage.	
Ten sound cisterns	7	3			
Twenty six leaky	11	3	2		10
	18	6	2		26

"These 26 are believed to be above the average of Memphis cisterns, as nine of them belong to the public schools, while not more than a dozen of the samples were sent in by inspectors, the others having

been furnished from the residences of gentlemen who attach importance to the water supply of their households and endeavor to keep their cisterns in good condition.

"The sample from the tank or rain-water reservoir was good. "Of the wells, four are organically pure and one exceedingly impure, the last showing that a leak in the brick lining of the well may admit of sewage infiltration as readily as one in the brick wall of a cistern. In some of the pure wells the amount of earthy and saline matters is such as to cause a doubt as to their wholesomeness. Of the running waters, that from the creek at Elmwood Cemetery is very impure. A sample from the mouth of Wolf River, taken after the recent rains, is exceedingly impure. A sample from the same river, furnished by the city supply before the recent rains, is also exceedingly impure. Three samples from Wolf River, stored in cisterns when the river was low and free from turbidity, are of good quality. One sample from Wolf River, as it is now, when passed through a charcoal filter, proved exceedingly pure. One sample of Mississippi River water taken after the rains from a point half a mile above the mouth of Wolf River proved a fair water, being but slightly inferior to that delivered in Washington as the city supply."

In those portions of the city which have been carefully inspected, a quantity of soiled and foul bedding, material for mattresses, &c., presumably infected, has been found in the yards, cellars, and out-houses. A quantity of this material, together with rags, is also collected in a number of junk-shops, and there is no evidence that it has been satisfactorily disinfected. The detailed survey is still going on, and will be pushed to completion as rapidly as possible.

The summary of the results of this survey in a portion of one of the oldest wards in the city is as follows:

In the first ward, up to date (November 26), there have been 192 inspections, embracing the area bounded north by Auction street, south by the alley between Exchange and Market streets, east by Main street, and west by the navy-yard. Of the streets and alleys, Main and Front are 32 feet wide; cross streets, 66 feet; alleys east and west, 164 feet; alleys north and south, 24 feet 9 inches. Main and Front are paved—Main, west of street railway track, with recently-laid stone, displacing Nicolson, and east of railway track with badly worn and decaying Nicolson. Front street paved, partly stone and partly gravel. Cross streets and alleys unpaved. Drainage by gutters along the curb. No sewers in any portion of the ward. The area between Front and Main drains north and east to the bayou, between Front and the navy-yard north and west to the Mississippi. This surface-drainage, as a rule, is good and sufficient, and the streets and alleys mentioned are comparatively clean.

Houses.—Within the area described there are 151 occupied dwelling-houses, 20 unoccupied, 6 groceries, 3 saloons, 5 junk-shops, 4 boarding-houses and saloons, 3 negro boarding-houses and saloons, 7 tenement-houses, 2 barber-shops, 1 colored Baptist church, 1 iron-works, 1 lumber-yard, 2 blacksmith-shops, 1 beet-market, 2 stables (large). Of the total number of houses in the ward 152 are brick buildings two stories in height, 16 being of three or more stories, 8 of one and a half, and 21 of one story. The average of these buildings is about twenty years, very few less than twelve years, while there are a number thirty years old and upward. There are 65 cellars reported—greatest depth eight feet. In 35 of these there is but little or no provision for ventilation; 54 are "damp" or "wet"; 12 foul from accumulation of rubbish, decomposing organic matter, mainly vegetable and cloth shavings, &c., and rotting vegetables; 32 contain privy-vaults, all foul, not covered, varying in depth from twenty to fifty-five feet. Out-houses, 72, comprising wooden sheds, summer kitchens, stables, and cow-sheds; 43 foul, badly drained, dilapidated, and in some instances the floor lower than the surface level. Drainage entirely surface; 61 brick drains; 40 foul, broken, choked up where they run under houses from the rear to the street gutters in front, 24 in good condition. Of the remaining 138 lots the drainage is either by dirt gullies or left to the natural slope of the ground. Privies, 184, of which 32 are in cellars, 48 in the other parts of the houses, with vaults beneath, 15 adjoining houses, and the remainder in the yards at distances of from three to forty feet from living-rooms; 23 houses without privies, the occupants using neighboring ones. Of the total number less than 40 are in good sanitary condition. The prevailing evils are deep vaults, full or nearly so; leaky and broken vaults, allowing contents to soak into the ground; dilapidated sheds, rotten floors and seats, hog-heads sunk into the yards for vaults, &c.

Yards.—Eighty are filthy, undrained, containing more or less decom-

poising organic matter, soaked with stable and cow-shed ooze and fecal moisture; is fairly good, being wholly or mainly brick paved and drained by brick gutters.

Animals.—Twelve horses, 31 mules, 24 cows, and an unknown number of hogs, goats, geese and poultry.

Families.—One hundred and fifty-two, 96 white and 56 colored; including, whites, 480; colored, 388. Social status—laborers, river-men, small shop-keepers, boarding-house keepers and saloon keepers.

Sickness and deaths.—Very imperfectly recorded. Number of cases of yellow fever during the year unknown.

Number of deaths.—Yellow fever, as returned, 15; congestive chills, 2; dysentery, 2; consumption, 1; yellow jaundice, 1; diphtheria, unknown; still-birth, 1.

Now under treatment.—Typhoid pneumonia, 2; inflammatory rheumatism, 1; erysipelas, 1.

Water supply.—From hydrants, 40; cisterns, 141; wells exclusively, 57; wells and cisterns, 24.

The following are specimens of individual nuisances and defects: Cellars without ventilation; simple excavations under houses, walled only on two sides; five feet deep.

No. 177.—Stagnant water in them; privy leakage; disused cistern containing foul water, four feet deep; disused for twenty years; full of rubbish, decaying in the dump, close hole.

No. 14.—Eight feet deep, accessible only by cellar door, giving the only ventilation; walls soaked with privy leakage from vault, eight feet outside.

No. 17.—Floor of the building two feet below the surface of the ground, so that during rains the surface filth is washed into and under the lower floor.

No. 23.—Same as No. 17.

No. 24.—Grating removed and close doors put in.

No. 32.—Privy in cellar; five inches water standing in cellar, in which is the cistern used by the family, as also the overflowing privy vault.

No. 37.—Six inches water standing, empty beer and whisky barrels.

No. 45.—Five inches of filth on brick floor, walls stained with leakage from privy ten feet outside.

No. 54.—Damp and filthy walls covered with mold, absolutely no ventilation; six inches sipe water.

Also foul cisterns adjoining privy vaults in yards, in cellars, and under houses, with foul drains clogged up and offensive passage; over them junk-shops containing second-hand clothing, much of which is known to have belonged to yellow-fever decedents; ordered destroyed, but carried off and sold by negroes; bedding of the same character; cotton which formerly filled yellow-fever mattresses, rags and miscellaneous families, "excessior," &c.

Crowded houses, with foul yards and surroundings, situated eighteen feet above their neighbors, who receive the drainage and storm-washings from them.

The sanitary condition of the Bayou Gayoso is shown by the following report of a special inspection of a portion of it, namely: From the south side of Poplar street to the north side of Beale street, inclusive—a distance, as laid down by Cook's map of Memphis, of 1,460 yards:

Emptying into the bayou are the following gullies, carrying surface and slop water:

Poplar street, two from the east and two from the west.
Washington street, two from the east and two from the west.
Adams street, two from the west.
Jefferson street, two from the east and two from the west.
Court street, two from the east and two from the west.
Madison street, two from the east and two from the west.
Monroe street, one from the east and two from the west.
Union street, two from the east and two from the west.
Gayoso street, two from the west.
Beale street, two from the east and two from the west.

Total, 15 east, 17 west.

Number of houses built directly over the bayou, 3.

Number of houses built upon the east bank, 19.

Number of houses built upon the west bank, 23.

Number of privies upon the east bank of the bayou, 17.

Number of privies upon the west bank of the bayou, 19.

Number of privies built directly over the stream, 2.

Number of cisterns upon the east bank, 1.

Number of cisterns upon the west bank, 1.

In addition to the above number of houses there are 1 planing-mill, 1 foundry (iron), 2 cotton sheds, 1 church (colored), 1 coal-yard, and 2 stables.

The average height of embankments is twenty feet, average width of ravine from middle of banks twenty-five feet, average width of stream at present five feet. Excepting two privies, whose contents are dropped immediately into the stream, all the others, in number 36, are so situated upon the edge of the sloping banks that their contents are exposed to the action of the open air, and render the banks in the immediate vicinity extremely filthy. All these shanties and houses upon both banks of the bayou at Monroe street, all upon the west side between Monroe and Union streets, all between Union and Gayoso, both sides, all the shanties between Hernando and De Soto streets, colored church on bayou bank, near De Soto, and the old

frames upon both banks near the Beale street market, should be condemned and destroyed, for the reason that they are not fit for human habitation, being insecure, old, and filthy. These buildings, both this year (1879) and 1878, were nests of fever, and have not been and cannot be properly disinfected sort of absolute destruction.

The bayou is made foul not only by residents along the banks, but by others living remote, since it is the receptacle of all kinds of refuse, filth, and rubbish.

From the number of damp cellars reported, and from the condition of the streets in wet weather, and especially in winter, it is evident that the subsoil drainage of Memphis is exceedingly imperfect.

Until this is remedied it will probably be impossible to secure satisfactory streets or roads; or dry cellars or foundations to houses. The presence of a large amount of decaying wooden pavement in the city is also, to a great extent, dependent upon the want of drainage; and, to remove the pavement before having established such drainage, would be to leave the streets in an almost impassable condition.

Although the house-to-house inspection of Memphis is not yet completed, and there are some matters of detail to be investigated, yet there are facts enough in the possession of the committee to warrant them in making a preliminary report, which shall contain the recommendations necessary for the immediate action so important to be taken. The detailed report to follow will simply be an amplification of these recommendations.

In view of the present sanitary and financial condition of the city, as we understand them, we make the following recommendations:

First.—That measures be at once taken to secure proper superintendence and subsequent care of the sanitary work to be undertaken by the city. This will involve, among other things, the employment of a trained and thoroughly competent sanitary officer, and it is absolutely necessary that such intelligent superintendence and care shall be provided, and continued, if good results are to be obtained from any comprehensive system of municipal sanitation. There is a large amount of sanitary work to be done in Memphis, the details of which must be left, to a great extent, discretionary, in order to secure the best results without unnecessary expense; but this discretionary power should be entrusted only to a competent health authority, independent of politics, and, unless it be provided, we do not think that the efforts of the authorities and citizens of Memphis to make it a healthy city will be successful.

Second. That as soon as possible there shall be carried out a methodical and thorough system of opening, ventilating and chilling all the houses in the city, whether occupied or unoccupied. This should be done in such a manner as to secure the exposure to currents of fresh cold air, for at least twenty-four hours, of all rooms, cellars, closets, interior of trunks, boxes, bureau drawers, &c., and also of bedding, carpets, clothing, &c.

In this connection it is also recommended that all rags, bedding, material for mattresses and articles of a similar nature now collected in the junk-shops of the city, or which may be found elsewhere under circumstances which would cause the presumption of their infection, should be at once collected and destroyed by fire.

Third. That it is important that the city should have control of the waterworks, at least to such an extent as to insure a change in the present source of supply, and also to insure that a sufficient amount of water for sanitary purposes shall at all times be at the disposal of the city. The water supply should be taken either from the Mississippi River, above the point of entrance of Wolf River, from a deeping, pure water-bearing stratum, if such can be found; or from a distant inland source.

The use of all polluted cisterns and wells should be at once discontinued.

Fourth. That a large number of houses in the city should be condemned, torn down, and the material destroyed by fire. This will include not only foul shanties and cabins, but some large buildings in the heart of the city.

Fifth. That all privy vaults now in the city should be cleaned out and filled with fresh earth, and that heretofore no system of dealing with excrement shall be permitted which involves pollution of soil, water, or air. In those portions of the city so thickly settled as to warrant it, there should be introduced a system of sewerage to discharge into the Mississippi River upon a plan substantially as recommended by Colonel Waring. This plan excludes rain-water and subsoil water from the sewers, and makes use of earthen pipes instead of brick, the dimensions of the pipes being so regulated as to secure a constant flow, which, at the maximum, shall not more than half fill the pipe at any point. The pipes are to be flushed at regular intervals with clean water from the city water supply, by means of a system of flush tanks. These recommendations include a system of subsoil drainage, discharging into the bayous and into the river.

The total cost of these systems of sewerage and subsoil drainage is estimated at \$255,000.

The connection of houses with this system of sewerage should be under municipal control, and in accordance with specifications to be prepared by the sanitary authorities. Public urinals and water-closets to connect with the sewers should be provided. The city should take charge of the removal of excrement from all premises not connected with sewers, and should insure, by frequent and trustworthy inspection, the proper condition of the receptacles so used. In those houses which are to be connected with the sewers, and in

which the privy-vaults are discontinued, there should be used in the interval between the closing of the vaults and the making connection with the sewers, some simple form of frequent dry-earth removal.

Sixth. That the bayous, with a sufficient strip of ground on each side to insure their control and freedom from pollution, should be made the property of the city for securing drainage and as a public park, the banks being properly grassed and a constant stream of clear water being secured. The backing up of high water from the river into the bayou should be prevented by means of a dam, in connection with which must be provided pumping machinery to dispose of the ordinary flow during such period of high water. This pumping would not generally apply to the storm-water falling on the surface of the city, since the plan of surface drainage includes an intercepting surface-gutter on each side of the bayou, carrying over the top of the dam the water of all ordinary storms. The total cost of the dam and pumping apparatus is estimated at \$3,500.

Seventh. That a system of building regulations shall be enacted and enforced, providing that no buildings shall be hereafter erected in the city unless the plans have been approved by the sanitary authority, and that the construction shall also be subject to its inspection and approval. All uncondemned buildings whose lower floors are less than two feet from the ground should be raised to that height as early as is possible; and in future all dwellings should be built with their lower floors at least two feet from the ground; also, that all cellars and basements should be freely ventilated. All this should be enforced by municipal authority.

Eighth. In this brief report no recommendations are made with regard to many important points in municipal sanitation, such as the system of removal of garbage, slop-water, dead animals, and refuse; the regulation of markets and slaughter-houses, hospitals and public charities, public baths, cemeteries, school-houses, &c.—in part because the detailed inspections on these points are not yet completed; in part because these are largely matters of detail, requiring the constant supervision of the competent sanitary authority, urged in our first recommendation; and the providing such authority is the best means of insuring that all these things will receive due attention. The existing regulations requiring the reporting of all cases of contagious and infectious disease, and also the requiring of burial permits, should be strictly enforced.

Ninth. With the exception of those devoted to heavy traffic, it is advised that all streets should be constructed of Paducah gravel, laid on a properly shaped road-bed, after the subsoil drains have been established, and that the gutters and curbs should be made of concrete.

Tenth. Few places possess greater natural advantages than the city of Memphis for drainage, removal of excrement, garbage, &c., to secure that healthfulness so necessary to commercial prosperity.

We believe that by carrying out the above recommendations, and by availing itself fully of what is now known as to the causes of disease and the methods of avoiding or destroying these causes, Memphis may soon become one of the healthiest cities in the valley of the Mississippi. All of which is respectfully submitted.

JOHN S. BILLINGS, M. D.,

Vice-President National Board of Health,

R. W. MITCHELL, M. D.,

Member National Board of Health,

W. H. H. BENYARD,

Major United States Engineers,

GEO. E. WARING, Jr.,

Civil Engineer,

CHARLES F. FOLSOM, M. D.,

Secretary Massachusetts State Board of Health,

Hon. D. T. PORTER,

President of the Taring District of Shelby County, Memphis, Tenn.

INTERNATIONAL QUARANTINE.

At the seventh annual conference of the Association for the Reform and Codification of the Laws of Nations, held in August, 1879, at the Guild Hall of the city of London, a paper was presented by Sir Sherston Baker, Bart., of Lincoln's Inn, barrister at law, relative to international rules of quarantine. This paper consists of a brief historical sketch of the efforts which have been made to establish a uniform system of quarantine between the civilized countries of the world. It is pointed out that the difficulty in the several conferences which have been held on this subject has been the attempt to reduce the conflicting quarantine systems of the world to uniformity, not merely as to their broad general principles, but as to

practice, even in the minutest details. He attempts to avoid this stumbling-block by considering what should be the "minimum of precaution which, if honestly observed, shall save a country or part of a country from being placed in quarantine by other States, so long of course as the country itself be free from disease."

To this end he proposes a scheme in the form of forty articles, which are given below. His suggestions relate to plague, yellow fever, and cholera only, and he gives the following as an outline, viz:

"An 'international bill of health,' to be granted by the local authority of the port of departure to every vessel, and to be delivered up by the vessel at the ultimate port of destination; this bill to be *revised* at the port of departure by the consul representing the port of destination, in such terms as he shall think fit. A similar *revisé* to be required at every port touched at, both from the local authority and from the consul representing the port of destination. This bill of health to be accepted in all ports of the high contracting parties. A foul bill of health or a case of disease, past or present, on board, or the fact of any port having become infected within a limited time after the departure of a vessel from it, to authorize the local authority of the port of arrival to place the arriving or touching vessel in quarantine, according to a certain scale, containing a maximum and a minimum period of quarantine; it being optional to every State to adopt any period within those limits. Every State to preserve its own municipal quarantine system, except on such points as may nullify or contradict these articles. Measures of disinfection for passengers, crew, and cargo to be required, but in every case to be left to the municipal regulations to supply the details. Lazarets and hospital ships to be provided in sufficient number, and to be regulated according to the best sanitary principles, but, again, the details to be left to the municipal authority.

To avoid the necessity of placing a whole State in quarantine, especially where a State comprises distant colonial possessions, each country to be divided by its own government into territorial divisions, to be termed quarantine "centers." Each State to engage to guard rigidly against any infected "center" and to place the same in quarantine."

The following are the rules proposed:

ARTICLE 1. The high contracting parties agree to apply to the plague, yellow fever, and cholera the sanitary measures hereinafter mentioned. In these articles the word "disease" shall comprise the plague, yellow fever, and cholera; the word "infected" shall mean "infected by the plague, yellow fever, or cholera;" the word "center" shall signify any of the territorial divisions in the schedule to these articles set out; the word "consul" shall include "any representative delegated by a consul;" the words "bill of health" shall mean the "international bill of health;" and the word "hospital" shall mean a lazaret or hospital-ship.

ART. 2. At the port of departure, or at any port touched at, every vessel, both before and after she is loaded, may be inspected by the local authority of the port, and by the consul of the "center" of the port of destination, and she shall be subjected to such reasonable sanitary measures as the local authority may deem necessary. These measures, when necessary, shall be effected at the expense of the local authority, and as quickly as possible, so as to avoid every delay to a vessel.

ART. 3. At the port of departure the passengers and the crew may be examined by a medical officer, at the request either of the local authority or of the consul of the "center" of the port of destination. The departure of any person who may be affected by any "disease" may be forcibly prevented by the local authority with or without the request of the consul of the "center" of the port of destination. Such examination shall be made as quickly as possible, so as to avoid every delay to a vessel.

ART. 4. There shall only be two bills of health, namely, a clean bill and a foul bill: the first shall state the absence of "diseases" in the "center" from which it is issued; the second shall state by name the presence of one or more "diseases" in the "center" from which it is issued. Every bill shall also state the following particulars: The name of the vessel to which it is issued, the name of the captain or master, the tonnage, the cargo, the number and sanitary condition of the crew and passengers, and the sanitary condition of the vessel and the ports it is proposed to touch at.

ART. 5. Every bill of health shall be drawn up and signed by the local authority of the port of primary departure in the name of the territorial government; and it shall bear the *revisé* of the consul of the "center" of the port of destination, and shall be credited in all the ports of the high contracting parties, subject to the subsequent local and consular *revisés*. The consul of the "center" of the port of destination may affix a qualified or negative *revisé* should he think fit; but in such case he shall state the nature of the qualification or his reason for negating the signature of the local authority. It shall be optional to other local authorities to admit a vessel with such a qualified or negative bill of health to stop, or to require her to undergo a quarantine within the limits set forth in article 20.

ART. 6. The local authority of every port where a vessel may touch shall require the production of the bill of health of the vessel, and

the same authority and the consul of the "center" of the port of destination shall affix their respective *claus* to the said bill of health. Such *claus* may be *confidential*, *qualified*, or *negative*, accordingly as the authority or consul may respectively deem expedient; but in the two latter alternatives a reason shall be assigned on the bill of health.

ART. 7. Every vessel shall have one bill of health, and no more.

ART. 8. This bill of health shall be in the following form, and to the following tenor and effect:

INTERNATIONAL BILL OF HEALTH.

To all to whom these presents shall come, the undersigned, health officers of, (name of State), at the port of (name), sendeth greeting:

I hereby certify that the vessel called the (A), whose master (or commander) is (B. C.), is about to sail from this port for (X), in the "center" of (Y), on — day of —, 18—, * and proposes to touch at (D) and at (E), on her voyage, under the following conditions:

Tonnage: —. Nationality: —. Cargo: —. Number of crew: —. Sanitary condition: —. Number of passengers: —. Sanitary condition: —.

I further certify that in this port and neighborhood there is (not) a case of the plague, yellow fever, cholera.

Dated this — day of —, 18—.

G. H., [L. S.]
Health Officer.

T. J.,

Consul for W.

I endorse [or qualify] the above, [and say that, &c.]

NOTE.—In the case of a vessel of war erase the words in italics.

ART. 9. Under normal conditions, when a "center" is not known to be "infected," the following vessels may be unprovided with bills of health:

1. Fishing-vessels.
2. Pilot-boats.
3. Revenue-cutters and guard-vessels.
4. Coasting-vessels running between different ports of the same country.

ART. 10. Under normal conditions, by a declaration to be exchanged between two of the high contracting parties, certain vessels from ports of certain "centers" of the one country, going to ports of certain "centers" of the other country, may be exempted from the obligation of carrying a bill of health.

ART. 11. No bill of health is to be kept back by any local authority or consul under any pretense whatsoever, except by the local authority of the ultimate port of destination, who shall receive and keep the bill of health.

ART. 12. A bill of health shall only be valid if it shall have been given or *viséd* within the forty-eight hours preceding the departure of the vessel, except when the vessel may be detained by stress of weather, provided that in such case she has not communicated with the shore since the date of her bill of health.

ART. 13. Every vessel from any port which has become "infected" within [seven] days after the departure of the said vessel, shall, notwithstanding a clean bill, be considered to be furnished with a foul bill of health.

ART. 14. A bill of health shall be considered clean although "disease" may exist in the "hospital" of the port of departure or of any port touched at.

ART. 15. Every vessel provided with a clean bill of health, which shall not have had at sea any case of disease or suspicious communication, and which shall present herself in a satisfactory sanitary condition, shall, subject to article 13, immediately be admitted to pratique in every port of the high contracting parties.

ART. 16. Whenever a vessel is admitted to pratique, her cargo, passengers, and crew (except such as may be "infected") are exempt from all sanitary measures.

ART. 17. Every healthy port may protect itself against any "infected" vessel, persons, or goods by placing the same in quarantine, and (subject to article 20) by subjecting the same to such sanitary measures as circumstances may render necessary.

ART. 18. The right is reserved to all the high contracting parties to enforce the particular quarantine system of each State, and to make their own municipal rules for carrying out the details of these articles; provided always that no such particular quarantine system or municipal rules shall contradict or render nugatory the present articles.

ART. 19. Whatever the number of sick on board, and whatever the disease or other illness, a vessel shall never be sent away from a port without assistance and due regard being paid to the rights of humanity. But if a port be without a "hospital," the local authority may send the vessel to a neighboring port, or cause the vessel to remain at anchor in an isolated spot under the watch of the local authority.

ART. 20. For the more easy application of quarantine, the high contracting parties agree to the principle of a maximum and a minimum quarantine. Every "center" may adopt either the maximum or the minimum quarantine at pleasure, according to the following scale, which governs all vessels, persons, and goods, except such persons as shall be found on arrival at a port to be suffering from "disease."

Arrival with bill of health.	Disease.	State of disease.	The plague.		Yellow fever.		Cholera.	
			Maximum quarantine.	Minimum quarantine.	Maximum quarantine.	Minimum quarantine.	Maximum quarantine.	Minimum quarantine.
Foul.....	No case.....	.....	Five days....	Three days...	Seven days*..	Five days*...	Three days....	One day.....
	Case.....	Recovered....	Ten days....	Five days....	Seven days....	Seven days....	Seven days....	Seven days....
	Case.....	Dead.....	Ten days....	Five days....	Ten days*....	Seven days*..	Seven days....	Seven days....
	Case.....	Subsisting...	Fifteen days..	Ten days....	Fifteen days..	Ten days....	Seven days....	Seven days....
Clean.....	No case.....	.....	.....	.....	.....	.....	.....	.....
	Case.....	Recovered....	Ten days....	Five days....	Ten days*....	Seven days*..	Seven days....	Seven days....
	Case.....	Dead.....	Ten days....	Five days....	Ten days*....	Seven days*..	Seven days....	Seven days....
	Case.....	Subsisting...	Fifteen days..	Ten days....	Fifteen days..	Ten days....	Seven days....	Seven days....

* If the vessel has been at sea for fourteen days a medical inspector of the passengers and crew shall be substituted for this period.

† If the recovery or death occurred fourteen days before arrival this period shall be reduced to five days.

‡ If the recovery or death occurred fourteen days before arrival this period shall be reduced to four days.

ART. 21. Every person found to be suffering from "disease" shall, on arrival at a port, be removed to a hospital, and shall be detained there until recovered.

ART. 22. Every captain or master shall record on the log an exact entry of every communication made at sea in order to detail it on arrival, if requested to do so by the local authority.

ART. 23. Every vessel on arrival shall be subject to any inquiry as to her port of departure and destination and to such interrogations as the local authority may see fit. She shall also produce her bill of health without demand. A ship of war shall only be required to produce her bill of health, but the word of her commander shall be required to guarantee her good sanitary condition.

ART. 24. Should a local authority deem it necessary on the grounds of health, and for a reason to be by them given in writing to the master of any vessel (whatever the bill of health of the same may be), they may cause an inspection to be made of the said vessel before admitting the same to pratique. Should the state of the cargo, or the crowded or infectious condition of such vessel or any similar cause determine the local authority to detain such vessel for the purpose of considering whether she should be dealt with under the following article 25, they are authorized to so detain her for a period not exceeding twenty-four hours.

ART. 25. The bad sanitary condition of any vessel, whether in quarantine or not, shall authorize the local authority to subject the same to such sanitary measures as a vessel with a foul bill of health may

be subjected to. If the vessel shall not be placed in quarantine, the sanitary measures shall be carried out by the master at his own expense under the direction of the local authority.

ART. 26. The cause for which a vessel is placed in quarantine shall in each case be assigned in writing, and delivered to the master or commander without any delay.

ART. 27. Quarantine shall entail such special measures of purification and disinfection, both with regard to vessels, passengers, crew, and cargo, as the local authority may deem necessary. Anything destroyed by fire by the local authority shall be paid for by them.

ART. 28. The right is reserved to all consuls to be present at the opening and purifying of letters and dispatches which may arrive by vessels and which are addressed to them or to their countrymen. The same right is reserved to the post-office.

ART. 29. Whenever during a quarantine a case of "disease" shall appear, the quarantine must commence afresh from the date of the death, recovery, or removal from the vessel of the last case of disease.

ART. 30. Quarantine may be performed at an intermediate port between the port of departure and that of destination. On proof being given in writing of such quarantine and of its sufficiency, and attested not only by the local authority of the intermediate port, but also by the consul of the "center" of the port of destination, such vessel shall be admitted to pratique.

ART. 31. Each of the high contracting parties engages itself to maintain or to furnish for the reception of ships, passengers, crews,

and goods subject to quarantine a sufficient number of "hospitals" for the convenience of travelers and the requirements of commerce.

ART. 32. The interior arrangements of a hospital shall be made on the best sanitary principles, and shall be such that the persons and articles in quarantine from different dates may be easily kept apart. There shall be spacious and convenient reception-rooms to enable persons from without to visit those in quarantine without prejudice to the precautions necessary to protect public health. Gratings shall be abolished as also everything which might have a prejudicial influence on the moral well-being of those in quarantine.

ART. 33. Every hospital must be supplied with good water, and in sufficient quantity. A tariff, fixed by the local authority and publicly exhibited, shall, with the concurrence of the respective consuls of the port, be revised every [six] months. In this tariff the price of food shall be stated on the lowest scale, and such food shall be supplied at convenient hours to the persons in quarantine at their own expense.

ART. 34. A medical officer of the local authority shall, whenever his services are likely to be required, be attached to the hospital, to visit those in quarantine and to assist in the execution of sanitary measures. His attendance shall be free of charge. The sick and others detained in hospitals shall be entitled to such religious ministrations and medical comforts as they may require, but the persons employed in administering the same must themselves undergo quarantine. Their services will be paid for by the sick whom they may attend.

ART. 35. The local authority shall, in every case, destroy by fire all wearing apparel or bedding recently used by the dead, or those stricken with any "disease." Other infected articles shall be subjected to the most thorough process of purification.

ART. 36. All letters and dispatches shall be forwarded to persons in hospital without delay. Letters and dispatches from persons in hospital shall be purified in such manner as the local authority may direct, provided that the writing be not obliterated, and shall be forwarded without delay.

ART. 37. The high contracting parties agree not to impose directly or indirectly on the shipping, passengers, crew, or goods of the respective States other quarantine charges than the dues and charges specified in these articles.

ART. 38. The high contracting parties engage themselves to guard rigidly against any "infected center," and to place the same in quarantine.

ART. 39. Articles 2, 3, 9, 21, 24, 25, and 27, respectively, shall not apply to the vessels of war of the high contracting parties.

ART. 40. The present regulations shall be in force and vigor for [five] years. If [six] months before the expiration of that term one of the high contracting parties shall have, by an official declaration, announced an intention of withdrawing from them, the regulations shall remain in force during another [year]; and so on from [year to year] until repealed.

[It is obvious that the "centers" cannot be defined until it is known what States may think fit to become parties to these rules.]

ABSTRACTS FROM CONSULAR REPORTS.

PARA, BRAZIL.—United States Consul A. C. Prindle reports 133 deaths (of which eleven were from small-pox) for the month of September. Malarial fevers were very prevalent. Population, 40,000; annual death-rate, 32.9 per 1,000.

SAINT THOMAS, WEST INDIES.—The consular report for the two weeks ending November 15, shows the absence of all contagious diseases, and a total of 12 deaths in a population of 15,000; the annual rate was 20.9 per 1,000. Four deaths were under 5 years. The mean temperature was 73°, and the general condition of the island good.

KINGSTON, JAMAICA.—During the two weeks ending November 22 there was no death from any contagious disease. The total of deaths for the month of October is stated at 102; the population being 40,000, the annual rate was 30.5 per 1,000; still, the sanitary condition of the place is rated as "fair." Mean temperature for the month, 86°.

NASSAU, BAHAMAS.—The reports for the weeks ending November 15 and 22 state that the number of cases and deaths cannot be officially ascertained in that town. The population is estimated at 2,000; no disease of contagious character prevails, and, excepting malarial fevers, the place is considered very healthy.

PATRAS, GREECE.—Under date of November 7, United States consul E. Hancock states that no statistics can be obtained to fill reports of diseases and deaths. He remarks that vessels often take part of their cargo at Patras for ports of the United States, but as they go elsewhere to fill up they do not take a bill of health from that port. No sanitary details are given, but the general condition of the place is noted "good."

YOKOHAMA, JAPAN.—United States Consul T. Van Buren, in his report for the week ending November 1, notes a single case of cholera as the only one that had occurred there for twenty days. As the epidemic died out gradually, and was not arrested by any meteorological change, it is thought the disease is at an end, at least for this year. The population is not stated, nor can the number of deaths be ascertained.

MAZATLAN, MEXICO.—United States Consul E. G. Skelton reports sixty-five deaths for the month of September, in a population of 11,000, giving an annual rate of 55.7 per 1,000. Diarrhea and malarial fevers, caused by the change from the rainy to the dry season, were the principal diseases; none of a contagious nature prevailed. The surface drainage is said to keep the streets remarkably clean, and the sanitary condition of the town is rated "good," in spite of the high death-rate noted above.

SMYRNA.—United States Consul E. J. Smithers writes, September 13, that no records are kept relating to the vital statistics or the public health of his consular district, so that reliable reports cannot be furnished. During the recent outbreak of plague in Russia, the consuls at Smyrna requested the Turkish Government to establish a board of health at that place, to be composed of the prominent foreign physicians, and presided over by the health officer of the port. Although these gentlemen offered their services without compensation, the government refused to sanction the measure.

STAFFORDSHIRE, ENGLAND.—United States Consul E. E. Lane sends the mortuary report of this county for the three months ending September 30, 1879:

One death from cholera, 59 from typhoid fever, and 172 from other contagious or infectious diseases, are reported. The total number of deaths was 4,706, in a population estimated at one million, giving an annual rate of 12 per 1,000. The district is generally clean and well drained.

United States Consul H. W. Diman writes as follows to the National Board of Health, from Lisbon, under date of November 21, 1879:

By a decree issued from the ministry of the interior, dated 15th instant, the port of New Orleans, heretofore considered as "infected" with yellow fever, is now considered as "suspected" of the same disease, to date from the 15th of October. Vessels having left New Orleans on or after that date, and arriving at any of the ports of Portugal, Madeira, or Azores, will hereafter only be subjected to a quarantine of observation.

BATAVIA, JAVA.—United States Consul O. Hatfield sends an incomplete report for the week ending October 11, with the following remarks:

There are at present no indications of Asiatic cholera, and we hope to be free from that disease for some time; but from the manner of living of the native and Chinese population we can never be secure. Yellow fever is unknown in this part of the world. Small-pox constantly prevails to some extent, but is not very fatal. Most other contagious diseases are common here, excepting typhus (ship fever) and plague, which, I am informed, do not appear in the island. The government furnishes no data for reports of the number of deaths and other details. The population of Java is estimated at 18,000,000, of which the city of Batavia contains about one million, 500,000 being Europeans. The native and Chinese population live closely packed together in small, dark, ill-ventilated houses, and among them proper drainage and sewerage are equally unknown and unearned for. Epidemic diseases are liable to make fearful havoc among them at times, but it is not possible to make any estimate of their usual death-rate.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of five cents per copy. Notice of at least one week should be given when a large number is required.

NATIONAL BOARD OF HEALTH rooms are at 1110 G street, northwest.

Report of mortality in cities of the United States for the week ending November 29, 1879.
CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths. Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Me.	Danvers	20,000	2	6	15.6		4			1								
N. H.	Concord	14,000	2	6	22.3				3									
Mass.	Boston	375,000	57	161	22.4		37	7	12	1	25		1	2			3	
	Cambridge	27,000	1	14	27.0		2	1	4		2						1	
	New Bedford	13,800	1	5	18.6		2											
	Newburyport	7,500		2	13.9		3							6				
	Marblehead	48,500	15	22	24.5		1											
	Fall River	6,334	1	4	32.9		1											
	Plymouth	52,000	7	18	18.0		3	1			3			1				
	Lowell	40,000	1	2	10.4		1											
	Lawrence	15,000					1											
	Brockton		1	1	20.8													
	Pittsfield	10,000		4	20.8													
	Milford	101,500	10	48	24.7		1			1				1				
	Somerville	23,000	3	9	24.4		6		5					9				
R. I.	Providence	66,000	3	14	12.2		3		2							1		
Conn.	New Haven	17,000	1	5	15.3		1											
	Norwalk	16,500	3	5	15.3													
Vt.	Burlington	1,563	32	557	26.4	3	105	12	20	5	114	9	4	7	12		6	
N. Y.	New York	561,448	79	204	18.8		32	5	25		38	4	1	2		1	3	
	Brooklyn	20,000	1	4	10.4		1											
	Poughkeepsie	17,568	2	7	20.9													
	Newburgh	5,000		1	8.0													
	Hudson	18,000	1	12	12.5		2		1		4						1	
	Sing Sing	190,000	32	90	25.8		11	1	3	1	18			7				
	Binghamton	125,000	21	48	20.0		5	1	1	5				5			1	
N. J.	Hudson County	901,380	57	238	13.8	1	44	5	6		19	2	1	5				
Penn.	Philadelphia	30,000	5	9	15.6		1	2	2					1			4	
	Erie	40,110	10	18	17.3		3	2	9		4			2			1	
	Reading	145,000	23	48	17.3		3	2						10			2	
	Pittsburgh	44,000	5	18	21.3		3		7	1	9					1	1	
Del.	Wilmington	400,000	56	157	20.5		10	3	1	6	1							
Md.	Baltimore	170,000	29	60	18.4		3	1	4									
District of Columbia*		24,000	4	15	32.6													
Va.	Norfolk	80,000	11	26	16.9		2		3									
S. C.	Charleston	57,000	9	27	24.7		3	2	1									
	Augusta	26,574	4	7	15.3		1											
	Atlanta	41,540	8	8	10.0		1			1								
	Rome	5,000	2	3	31.2													
Fla.	Jacksonville	10,000	1	4	20.8		1											
Ala.	Mobile	40,000	4	18	23.5		1	3			2							
Miss.	Vicksburg	15,000		1	3.5													
	Columbus	5,300																
La.	New Orleans	210,000	24	61	20.1		10	8	4	4	3	2						
Texas.	Austin	15,500	5	13	13.6		2	1										
	San Antonio	22,300	7	10	23.2													
Ark.	Little Rock	22,000	1	4	9.5		2											
Tenn.	Nashville	37,053	1	3	5.8		1											
	Chattanooga*	12,000	2	5	21.7		2	1	6		2						4	1
Ky.	Louisville	175,000	16	39	11.6		13	6	3	9	1						1	
Ohio.	Cincinnati	280,000	37	87	16.2		4		1	3	1			14				
	Cleveland	175,000	27	57	15.0													
	Dayton	39,000	4	9	12.0													
	Gallipolis	5,500		1	9.5													
Mich.	Port Huron	8,200	1	1	6.4													
Ind.	Evansville	40,000	5	12	15.6													
	Indianapolis	100,000	7	20	10.0													
Ill.	Chicago	557,034	85	154	17.2		11	2	18	1	19	1	1	12			3	1
	Quincy	35,000	7	13	19.4													
Wis.	Milwaukee	124,000	13	35	11.7		6		6									
	Racine	15,000	1	5	17.3		2											
Minn.	Saint Paul	51,050	2	4	4.1		3	1	1									
	Minneapolis	52,000	6	12	12.0													
Iowa.	Burlington	30,000	1	1	1.7													
	Dubuque	15,000		4	6.9													
	Keokuk	15,000		3	10.4													
Mo.	Saint Louis	500,000	47	121	12.6	1	16	5	9	14	9							
Kans.	Lawrence	8,478	1	3	12.6													
Neb.	Omaha	35,000	3	9	15.6													
Utah.	Salt Lake City	25,000	6	15	31.3	1	2											
Cal.	San Francisco	300,000	24	86	14.9		10	2	2									
	Sacramento	25,000	2	10	20.0													
	Vallejo	5,000	1	3	31.3		1											
Totals.			7,896,676	1,151	2,768	18.2	8	410	81	108	10	356	41	14	99	4	45	21

* District of Columbia has 114,000 white, 56,000 colored; deaths, 27 white, 33 colored. Rate per 1,000, white, 12.3; colored, 30.7. Norfolk, Mass., 14,087 white, 9,943 colored; deaths, 10 white, 5 colored. Rate per 1,000, white, 37.3; colored, 26.3. Richmond has 46,000 white, 35,000 colored; deaths, 9 white, 18 colored. Rate per 1,000, white, 18.8; colored, 29.3. Augusta has 15,246 white, 10,210 colored; deaths, 2 white, 5 colored. Rate per 1,000, white, 15.8; colored, 29.3. Charleston has 25,000 white, 32,000 colored; deaths, 4 white, 4 colored. Rate per 1,000, white, 22.4; colored, 12.9. New Orleans has 155,000 white, 55,000 colored; deaths, 50 white, 31 colored. Rate per 1,000, white, 16.8; colored, 29.4. Nashville has 17,568 white, 9,500 colored; deaths, no whites, 3 colored. Rate per 1,000, white, 0; colored, 16.5. Chattanooga has 5,000 white, 4,000 colored; deaths, 4 white, 1 colored. Rate per 1,000, white, 26.1; colored, 13.0.

THE following reports, for the week ending November 29, are from places requiring burial permits, and having less than 5,000 population:

Bridgewater, Mass., population 3,900; consumption 1. Brunswick,

Ga., 3,000; no deaths. Edgartown, Mass., 1,700; no deaths. Franklin, Ind., 4,000; no deaths. Nantucket, Mass., 3,000; old age 1. Total population, 15,600; total deaths, 2; annual rate, 6.7 per 1,000.

THE following reports, for the week ending November

29, are from places in which burial permits are not required:

Allegheny, Penn., population 75,000; deaths 28; under 5 years 12; consumption 1, diphtheria 1, lung diseases 3, whooping-cough 4. Bath, Me., 10,000; deaths 4; under 5 years 1; consumption 3, pneumonia 1. Battle Creek, Mich., 7,500; deaths 4; under 5 years 1; diarrhoea 1, diphtheria 1, typhoid fever 1. Belfast, Me., 5,278; deaths 3. Benton County, Miss., 11,000; accident 1. Carrollton, Miss., 600; no deaths. Columbus, Ga., 10,000; deaths 6; under 5 years 1; consumption 4, pneumonia 1. Dallas, Tex., 20,000; deaths 4, all under 5 years; typhoid fever 2, accidents 2. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. Fayette, Miss., 300; no deaths. Flint, Mich., 10,000; deaths 3. Jackson, Miss., 5,000; malarial fever 1. Louisiana, Mo., 5,000; deaths 3; cerebro-spinal fever 1; diarrhoea 1. Mansfield, Ohio, 11,000; deaths 2; under 5 years 1. Marshall, Mich., population not given; deaths 6; under 5 years 2; diphtheria 1. Mount Pleasant, Iowa, 5,000; 1 death; under 5 years. Niles, Mich., 4,630; deaths 3; under 5 years 1; pneumonia 1, scarlet fever 1. Painesville, Ohio, 5,000; deaths 2; diphtheria 1. Port Gibson, Miss., 1,100; no deaths. Ripley, Miss., 1,000; no deaths. Tampa, Fla., 1,000; no deaths. Waterbury,

Conn., 16,000; deaths 9; under 5 years 3; consumption 1, pneumonia 1, perneal fever 1. Winona, Minn., 11,786; no deaths. Youngstown, Ohio, 17,000; deaths 2, under 5 years; diphtheria 1, whooping-cough 1. Total population, 235,334; total deaths, 69; under 5 years, 27.

WEEKLY SUMMARY OF MORTALITY.

For the week ending November 29 a total population of 7,865,698 is represented in the mortality reports. The number of deaths being 2,768, the annual rate was 18.2 per 1,000, having been 17.1 for the preceding week. The mortality under 5 years having risen from 35.5 to 41.5 per cent. of total deaths, the general increase is to be ascribed chiefly to diseases of children. Diarrheal diseases and whooping-cough show a marked increase, while scarlet fever, though widely spread, has declined from nearly 4 to 3.6 per cent. of the whole number of deaths. Consumption includes 4.8 and acute lung diseases 12.9 per cent. of the deaths, their sum being nearly the same as for the previous week. Measles do not form an important element, only 9 deaths being caused by that disease. Small-pox is reported only from San Antonio, Tex., where 4 deaths occurred, probably most if not all of them among the Mexican or mixed population.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Vancouver's Island	Victoria	4,000	Nov. 23	1	13.0	..	..	..	..	..	..	50.0
Canada	Montreal	135,000	Nov. 22	52	20.4	..	..	..	14	..	..	25.6
Do	Do	135,000	Nov. 29	64	24.7	..	..	..	17	..	1	29.0
Do	St. John's	5,000	Nov. 29	2	20.8	..	..	..	..	..	..	30.0
Do	Charlottetown	12,000	Nov. 29	2	20.8	..	..	..	..	..	..	32.5
Cuba	Havana	195,437	Nov. 15	154	41.1	..	..	6	1	..	..	73.0
Do	Cienfuegos	20,218	Nov. 27	18	46.4	..	..	..	4	..	..	75.0
Haiti	Aux Cayes	8,000	Nov. 5	6	29.1	..	..	..	..	..	..	75.0
Do	Do	8,000	Nov. 12	4	26.1	..	..	..	..	..	..	75.0
Guadeloupe	Pointe à Pitre	15,028	Nov. 8	10	29.9	..	..	..	..	..	..	86.5
Do	Do	15,028	Nov. 15	12	31.7	..	..	..	..	..	..	84.0
Mexico	Matamoros	16,000	Nov. 15	9	29.3	..	..	..	..	..	..	77.1
Fazal Azores	Horta	7,630	Oct. 25	2	14.7	..	..	..	..	..	..	70.0
Do	Do	7,630	Nov. 1	2	13.7	..	..	..	..	..	..	67.0
Do	Do	7,630	Nov. 8	7	47.9	..	..	..	..	..	..	66.0
Ireland	Belfast	212,000	Nov. 29	94	21.1	..	..	..	..	..	..	44.8
Scotland	Glasgow	575,126	Nov. 15	215	19.4	..	..	..	..	..	..	45.6
Do	Leith	57,000	Nov. 22	30	27.4	..	..	..	..	..	..	44.9
Do	Dundee	150,923	Nov. 22	62	21.4	..	..	..	..	..	..	44.9
England	Liverpool	538,339	Nov. 15	270	26.1	..	..	..	..	..	..	41.3
Do	Glasgow	575,126	Nov. 15	215	19.4	..	..	..	..	..	..	44.9
Do	Sheffield	297,138	Nov. 22	201	35.4	..	..	..	..	..	..	40.0
Do	Newcastle-on-Tyne	146,948	Nov. 22	61	21.6	..	..	..	..	..	..	39.9
Do	London	3,630,868	Nov. 15	1,609	24.1	..	..	..	..	..	..	40.3
France	Paris	1,044,002	Nov. 22	56	27.8	..	..	..	..	..	..	41.0
Do	Paris	1,088,806	Nov. 13	935	21.5	..	..	..	..	..	..	20
Do	Lyons	342,815	Nov. 15	145	22.0	..	..	..	..	..	..	..
Switzerland	Zurich	22,000	Nov. 15	4	9.5	..	..	..	..	..	..	..
Holland	Amsterdam	308,922	Nov. 15	130	22.9	..	..	..	..	..	..	..
Belgium	Brussels	147,000	Nov. 15	77	27.3	..	..	..	..	..	..	..
Do	Brussels	399,482	Nov. 15	148	19.3	..	..	..	..	..	..	..
Do	Antwerp	399,482	Nov. 22	160	20.9	..	..	..	..	..	..	..
Do	Antwerp	169,981	Nov. 8	86	26.1	..	..	..	..	..	..	..
Do	Antwerp	169,981	Nov. 15	72	20.0	..	..	..	..	..	..	..
Do	Antwerp	169,981	Nov. 22	77	23.5	..	..	..	..	..	..	..
Saxony	Dresden	215,440	Nov. 15	86	20.8	..	..	..	..	..	..	..
Do	Chemnitz	80,000	Nov. 22	34	23.9	..	..	..	..	..	..	..
Do	Chemnitz	145,719	Nov. 22	61	20.9	..	..	..	..	..	..	..
Bavaria	Munich	300,000	Nov. 8	30	17.4	..	..	..	..	..	..	..
Germany	Berlin	1,062,500	Nov. 15	433	..	..	..	..	..	..	..	..
Do	Bremen	165,000	Nov. 1	29	11.1	..	..	..	..	..	..	..
Do	Frankfurt	120,000	Nov. 15	5	20.6	..	..	..	..	..	..	..
Do	Mannheim	48,000	Nov. 22	29	31.5	..	..	..	..	..	..	..
Do	Stuttgart	165,825	Nov. 15	37	18.2	..	..	..	..	..	..	..
Do	Barmen	94,000	Nov. 15	32	17.2	..	..	..	..	..	..	..
Do	Barmen	270,000	Nov. 8	144	20.9	..	..	..	..	..	..	..
Italy	Leghorn	97,410	Nov. 22	50	26.7	..	..	..	..	..	..	..
Do	Catania	26,500	Oct. 12	13	25.6	..	..	..	..	..	..	..
Do	Do	26,500	Oct. 19	12	21.6	..	..	..	..	..	..	..
Do	Do	26,500	Oct. 26	11	21.6	..	..	..	..	..	..	..
Do	Do	26,500	Nov. 2	12	23.6	..	..	..	..	..	..	..
Do	Do	26,500	Nov. 9	5	9.8	..	..	..	..	..	..	..
Do	Do	26,500	Nov. 16	12	21.6	..	..	..	..	..	..	..
Do	Naples	476,614	Oct. 15	219	21.9	..	..	..	..	..	..	..
Do	Do	476,614	Oct. 25	225	24.4	..	..	..	..	..	..	..
Austria	Trieste	127,873	Nov. 8	83	34.8	..	..	..	..	..	..	..
Do	Vienna	737,255	Nov. 1	352	24.9	..	..	..	..	..	..	..
Do	Budapest	399,705	Nov. 1	173	21.8	..	..	..	..	..	..	..
Romania	Bucharest	214,390	Nov. 15	164	11.7	..	..	..	..	..	..	..
Russian Poland	Warsaw	339,703	Nov. 8	178	27.6	..	..	..	..	..	..	..
Sweden	Stockholm	169,429	Nov. 8	74	22.8	..	..	..	..	..	..	..
Norway	Christiania	113,000	Nov. 8	79	18.0	..	..	..	..	..	..	..
Portugal	Lisbon	290,000	Nov. 8	110	29.7	..	..	..	..	..	..	..
Barbary	Tripoli	20,000	Nov. 8	26	23.0	..	..	..	..	..	..	..
Do	Do	20,000	Nov. 8	63	16.4	..	..	..	..	..	..	..

* The reports from Berlin are for the hospitals only.

SANITARY INSPECTORS' REPORTS.

DETROIT, MICH.—Dr. A. N. Bell makes the following report on the sanitary conditions of this city, dated December 1, 1879:

There is at present no board of health or health officer of any kind whatever. The common council has authority under an existing city ordinance to establish a board of health, but they seem not to appreciate the necessity of exercising it. There are no printed health statistics, except from May to January, 1878. The only records kept, are returns of interments from the keepers of the cemeteries by the city clerk. According to these, the deaths for the three months ending October 31, were respectively 167, 195, and 168; giving in the aggregate a ratio of annual mortality of 16,396 per 1,000 on an estimated population of 125,000. The returns for the month of October showed 11 deaths from diphtheria, and three from typhoid fever. The sewers are all built of brick, and are of all sizes from 15 x 20 (egg-shaped), to 96 inches in diameter intended to receive all surfaced water as well as sewerage; and to this end, the street mains are provided with trapped culverts at the corners of the streets. A special grade of sewers, called laterals, extend along the rear-ways, and become the receptacles of the excrement from the common yard-privy vaults, which are numerous throughout the city, and as these are provided with no means of flushing and are consequently incapable of being trapped, they are offensive in the extreme, and are an increasing public nuisance of great magnitude and danger. Among the best and recently built houses there are house connections with the sewers, but even in these, there is little or no attention paid to ventilation of the connections; at best, only by the rain-water leaders of the eaves-troughs. In addition to these defects, the main outfalls into the river are more or less subject to submergence at high-water; and at times to the influence of windward exposure, increasing the danger from neglected ventilation.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

DALLAS, TEXAS.—Dr. J. L. CARTER, health officer, writes as follows:

The country surrounding Dallas, for miles in all directions, is composed of vast undulating prairies, with soil of surpassing fertility. Nearly all of this country is in a good state of cultivation, producing grain, cotton, and grasses. The situation of Dallas is well suited for draining, sloping mainly toward the river. The streets are well laid off, with ditches on either side to convey the water to main gutters and sewers. A great deal has been done during this summer and fall to improve the drainage of the town. Sewers, ditches, grades for streets, &c., have been constructed—so much so that all the water that falls now runs out of the city immediately. The ditches, sewers, and sidewalks are mostly made of wood. The city is supplied with gas and water works. The water is obtained from springs two miles from the business part of the city, and is conveyed through iron pipes. The water is largely impregnated with lime. I think at least half of the population use water from wells which are sunk convenient to their homes and places of business. They are dug down to a limestone formation, which underlies the whole of the city from six to forty feet below the surface of the ground. The privies are holes dug in the ground from three to eight feet, some bricked and cemented, some planked, and some just holes in the soil. Some of these are sunk to the rock, and endanger the wholesomeness of the well water. The wells and sinks are dug to the same limestone stratum, and their contents are liable to become mixed and produce diseases. The privy system has been much improved during the summer and fall. Many sand-boxes have been substituted for holes in the ground. Sand-boxes are not well suited to our climate unless they are in a basement story, protected from the intense heat of our summer sun. The excrement deposited in the morning becomes offensive before nightfall because of so intense a heat. This makes the frequent dusting or disinfecting and frequent emptying a considerable expense and labor. Sinks five feet deep, bricked and cemented, are better adapted, I think to this climate. This city is in a fair way to become a good sanitary city. A topographical survey is now being made, with the view of carrying on sanitary improvements *pari passu* with other improvements. All of the authorities of the city and the citizens generally recognize the paramount importance of sanitation, public and private. At this date the city is healthy, no epidemic nor contagious disease prevailing in the city. There are some cases of zymotic diseases, and a few cases of acute lung diseases.

KNOXVILLE, TENN.—Dr. A. B. TABLOCK, A. M., M. D., President Board of Health, writes as follows:

Experience teaches that neither the quantity nor quality of laws is so much at fault in city sanitation as the popular lack of appreci-

ation of such work, and the will and ability of officers to execute the laws. Knoxville has not been an exception to this rule, else for the last two or three scores of years her sanitary condition would have been, if not perfect, at least praiseworthy. Her health ordinances have been most excellent, in keeping with the advance of science, and eminently suited to the purposes intended.

Previously to the year 1874 vital registration and house-to-house inspection had not been provided for, and yet in these two principal factors of sanitary work Knoxville now outranks, by priority, scores of cities much larger in population. And here let me remark that no city has been, nor indeed can be, successfully improved without the registration of vital statistics and house-to-house inspection. Impressed with the correctness of this idea in 1874, in the beginning of the sanitary "boom," the writer prepared an ordinance to secure the vital statistics of the city, which was adopted by the board of mayor and aldermen. With the board's approval, a thorough house-to-house inspection was secured by detailing policemen, one for each ward. They worked one at a time, and each performed this work in about two days. The value of these reports, in giving efficiency to the sanitary and other departments of our city government is known and acknowledged by all who are cognizant of the past and present sanitary condition of Knoxville. Recently we have had organized the "Knoxville Board of Health," whose aim is to co-operate with the State and national organizations. It is composed of three physicians, one commercial man, and one lawyer, and is at present purely advisory in its functions. The city has been very healthy during this year. We are now, however, having a few cases of typhoid fever, the source of which is not at present understood. Also, during the autumn and early winter a few sporadic cases of diphtheria made their appearance.

AMERICAN PUBLIC HEALTH ASSOCIATION.

At the meeting of the American Public Health Association, at Nashville, Tennessee, November 18–21, 1879, the following resolutions relative to the National Board of Health were unanimously adopted:

Whereas the National Board of Health has, in accordance with the law which created it, requested the advice of the American Public Health Association regarding the form of a permanent national health organization of the United States, including its relations to quarantine, both maritime and inland; and,

Whereas the opinions of the advisory council of the association upon the subject of health legislation, collected and presented by this body through Dr. J. M. Toner, chairman of the council, have been duly considered: Therefore,

Resolved, That, in the opinion of the American Public Health Association, the present National Board of Health has been of such vast service to the country that it is not expedient to make any essential change in its organization, and that any minor improvement in details should be left to the Board itself.

Resolved, That the investigations which have been commenced by the Board are approved and should be continued, and that similar investigations should be undertaken by it into the consideration and prevention of other diseases as well as yellow fever.

Resolved, That Congress should appropriate sufficient funds to enable the Board to employ the best talent and apparatus in such scientific and practical inquiries.

Resolved, That the operation of the existing quarantine law, and of the rules and regulations prepared by the National Board of Health on that subject, have accomplished great good, and that no change in the law should be made without the most careful and serious consideration.

Resolved, That in the opinion of this association the quarantine laws of the United States should be under the direction of the National Board of Health and of an executive committee to be selected by that body.

Resolved, That this association has no suggestions to make with reference to any amendments to existing legislation in regard to quarantine, preferring that they should come from the National Board of Health, as the most competent body to advise whatever may be best.

Resolved, That it is expedient for the National Board of Health to call an international congress for the discussion of the very important subjects of international sanitary quarantine, &c.

Resolved, That it is the duty of the General Government to build, equip, and conduct, at the mouth of the Mississippi River, a quarantine station, at such a place as may be designated by the National Board of Health.

Resolved, That the secretary of this association be instructed to forward to the National Board of Health a certified copy of these resolutions, together with the reports and documents of the advisory council; and that the executive committee be instructed to take such action during the next session of Congress as may seem best suited to promote legislation in accordance with these resolutions.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, DECEMBER 20, 1879.

[No. 25.]

MUNICIPAL BOARDS OF HEALTH.

Plato, in his "Republic," gives an important position in the organization of the government of the city to the state physician. Without this officer, as the chief of a department of health, the government was not, in his opinion, complete. What functions the state physician was to perform we may gather from the writings of Hippocrates, a contemporary of Plato, and the state physician to Athens during the period of the great plague. He lays down the following rules to guide the young physician in his studies and observations bearing upon the public health of the city in which he was to locate: "When you have selected the city of your future residence consider well its situation—how it lies to the winds, and to the rising of the sun; whether north and south or east and west. Consider also attentively the waters which the inhabitants use; whether they be marshy and soft, or hard and running from elevated and rocky situations, and then if saltish and unfit for cooking. And the ground, whether it be naked and deficient in water, or wooded and well watered, and whether it lies in a hollow, or is elevated and cold; and the mode in which the inhabitants live, and what are their pursuits; whether they are fond of drinking and eating to excess, and given to indolence, or are fond of exercise and labor, and not given to excess in eating and drinking. From these things, you must proceed to investigate everything else. For if you know all these things well, you cannot miss knowing either the diseases peculiar to the place or the particular nature of common diseases. Thus you will be able to foretell what epidemic will attack the city, either in summer or winter, and what each individual will be in danger of experiencing from the change of regimen. You will also not be in doubt as to the treatment of the prevailing diseases."

Thus, upwards of four centuries before the Christian era, we have Plato, the father of political science, modeling the framework of a republic, defining its several departments, and including as one of the most important that of state medicine; and Hippocrates, the Father of Medicine, his friend and counselor, organizing that department, and graphically sketching the duties devolving upon its chief officer. We have come to realize in our time, in the more important features of our municipal governments, many of the characteristics of the model republic of Plato; but in the organization of the department of state medicine we have as yet notably failed to realize the model health board of Hippocrates.

Though all our cities, towns, and villages have in some form recognized health authority, yet in how few are those

who exercise such authority capable of advising intelligently in regard to the improvements of the topography of the city and its water supply; to determine how the social condition and habits of the people affect the public health; to foretell what epidemic will attack the city, either in summer or winter, and what each individual will be in danger of experiencing from the change of regimen; to direct preventive measures against prevailing diseases; and "not be in doubt" as to the proper treatment to be pursued in each epidemic; in a word, to be competent "to investigate everything else" bearing upon the health of the people! It is nevertheless true that we are making progress in the right direction, and not only is state medicine beginning to be recognized as an essential feature in state and municipal government, but there is a healthful tendency toward selecting only the best qualified officers for sanitary administration, and then giving them powers adequate to the effective discharge of their duties. But such a reform as would give to each municipality in this country a capable board of health can only be accomplished by persistent and intelligent public discussion.

It is evident that municipal boards of health should have powers commensurate with the duties they have to perform, viz, the protection and promotion of the public health. They must be able to remedy every condition, matter, or thing dangerous to life or detrimental to health. Without such powers, they will fail to perform their part in the government of cities. When thus organized with ample and adequate provisions for fulfilling its mission, a board of health is undoubtedly an anomaly in the municipal government. It should possess at once legislative, judicial, and executive powers. It should make the laws which it executes, and sit in judgment upon its own acts. It is apparent, therefore, that a health department must have a peculiar constitution. It must be the ablest and wisest authority in at least three departments of inquiry and administration, viz: 1. *Medical*, 2. *Legal*, 3. *Construction*. Thus constituted, a community may safely commit to its care the varied duties and immense trusts which devolve upon the guardians of the public health.

The functions of the municipal board differ widely from those of the State board. While the latter must be mainly an advisory and appellate body, the duties of the former are executive. Regarding its functions in the twofold aspect of protecting and promoting the public health, it is not difficult to define the general scope of the duties of the municipal board.

In the *protection* of the public health it must exercise its varied powers in regard to the following: 1. The ex-

terral sanitary police of the city must be so regulated and supervised that exotic pestilences cannot gain admittance to the city, either through the cargo or the passenger and his effects. 2. Persons suffering from contagious and infectious diseases must be rigidly isolated from the well. 3. The contagious or infectious principle outside of the person must be absolutely destroyed. 4. Excretal matters and filth of every kind must be removed and rendered innocuous, whether found in the dwelling, the house drains, the sewer, the street, or public place, and cleanliness must be everywhere secured. 5. Trades and business of every kind and character which cause special forms of disease among operatives or among the people must be placed under such regulations as will effectually remove all causes and sources of sickness.

In the *promotion* of the public health, the end sought to be attained is both the removal of every condition, matter, or thing which tends to cause ill-health among the people, or in any way to abbreviate the natural life of the individual in every rank and grade of society, and the creation of all those conditions which will secure the most perfect type of physical development and the longest and most active life of which each individual is capable. These duties may be grouped as follows: 1. *Drainage*.—One of the first external conditions of health of a city is dryness and purity of soil. This can only be effected by deep drainage and the permanent opening of natural water courses. Such drainage can be satisfactorily directed only by the sanitary engineer. 2. *Dwellings*.—It would be vain to attempt to estimate the amount and kinds of ill-health which result from defective house construction in cities. The methods of excluding fresh air and generating and husbanding foul air are surprisingly great and ingenious. The proper construction of dwellings will never be secured in any city until the plans of every house are submitted to and approved by the sanitary architect of the board of health. And especially is this true of dwellings intended for the poorer classes. 3. *Food supply*.—In order to secure good and wholesome food, vigilant sanitary inspection is absolutely required in cities. Nor is it sufficient merely to provide good food in the public markets: measures should be adopted in large cities to secure its easy distribution among the poor. This class will not go long distances to market, but will buy the stale articles which the hawksters hawk about the streets. The country producer with his fresh material should be brought in direct and personal contact with the poorest consumer. 4. *Water supply*.—Next to food, pure, undebilitated water is of the greatest importance to the public health. The closing of low-lying wells and springs and securing water from sources above contamination rests with boards of health, for no other branch of the municipal government properly appreciates the necessity.

Without dwelling in detail upon the branches of investigation and administration which boards of health must pursue that fully perform their duties in promoting the public health, we may remark that, among innumerable minor matters, it includes the practice of pharmacy, the man-

agement of the public schools, the adequate supply and maintenance of public baths and public parks, the suppression of intemperance, the control of vagrants, &c.

Finally, boards of health should be sources of instruction of the people in all branches of domestic as well as public hygiene. This most important duty in the promotion of the public health is far too much neglected by existing health organizations. It is impossible to estimate the value of tracts on hygiene, prepared expressly for the masses and issued under the sanction of the central sanitary authority. Such publications are generally read with avidity, and if timely issued with reference to prevailing diseases, the simple rules are faithfully followed, and sickness and death are prevented.

THE STATE LAW AND CITY OF PORTSMOUTH (NEW HAMPSHIRE) ORDINANCES.

OF HEALTH OFFICERS FOR THE HARBOR OF THE PISCATAQUA (APPROVED JUNE 29, 1867).

SECTION 1. The mayor and aldermen of the city of Portsmouth shall have full and exclusive power to appoint annually a board of health, who shall have jurisdiction over all the harbor of the Piscataqua which lies up the said harbor, below the most westerly and northerly line of said Portsmouth, and thence down said harbor to the ocean, so far as the jurisdiction of this State extends seaward, or over said harbor below said westerly and northerly line of said Portsmouth, and said jurisdiction shall be exclusive; and no health officers of any other town in this State shall have jurisdiction over the waters of said harbor within said limits.

SEC. 2. The powers and duties of said health officers shall be such as are prescribed by the laws of this State or by the ordinances of said city of Portsmouth; and the city council of said Portsmouth are hereby empowered to pass all such ordinances and regulations, with such fines and penalties for the breach thereof as they shall think fit, in reference to said harbor, and in regard to quarantine, and place for quarantine ground within the waters of said harbor, and for the due government of said harbor in reference to the preservation of the health of the citizens of this State, with such fees and compensation as they shall deem fit and proper; and said health officers shall see that said ordinances, rules, and regulations are properly carried out and enforced over the whole of said harbor within said limits.

SEC. 3. One at least of said board of health shall be a regular physician, and said board shall not consist of less than three persons, but a majority may act.

SEC. 4. Said board of health, when appointed, are not to be subject to the control of said board of mayor and aldermen, but shall be independent thereof, so long as they shall continue to hold said office; and said board shall continue each year in office until a new board is chosen and qualified in their stead, unless one or more are removed for due cause, shown on due notice and hearing, or by death, in which case others shall be appointed to take the place or places of those thus removed.

SEC. 5. The power of removal for due cause shown shall be by a vote of a majority of the board of mayor and aldermen present at a meeting duly called, after a hearing of the case on due notice.

OF THE HEALTH OFFICERS AND THE PUBLIC HEALTH.

SECTION 1. There shall be chosen annually, at the commencement of each municipal year, three or more persons to be denominated health officers or health committee, one of whom shall be a physician of regular standing; who shall hold their offices for one year and until others shall be chosen and qualified in their stead, unless sooner removed by the city councils. Whenever any vacancy shall occur in said committee, by death, resignation or otherwise, such vacancy shall be supplied in the manner herein prescribed.

SEC. 2. It shall be the duty of said health officers—subject always

to the direction, authority and control of the mayor and aldermen—to carry into execution all the ordinances and rules made by the city councils relative to causes of sickness, nuisances and sources of filth, that may be injurious to the health or may affect the comfort of the inhabitants of the city existing within the limits thereof: and to cause all such nuisances, sources of filth and causes of sickness to be removed, destroyed or prevented, as the case may require, conformably to such ordinances and rules and the laws of the State.

SEC. 3. All waste water of houses, yards, cellars, sinks, pumps, &c., shall be conveyed by their owners or occupiers to the common sewers, or to such places as the health officers may direct.

SEC. 4. No person shall be allowed to throw any vegetable or dead animal substance, or any other matter capable of producing infection, into any street, lane, alley or dock, or upon any wharf, but shall bury them or throw them into the river below low-water mark.

SEC. 5. The contents of vaults and privies shall not be permitted to rise within one foot of the surface of the earth. And all owners or occupiers of buildings having such vaults or privies as may require it, shall cause them to be emptied within ten days from the promulgation of this ordinance, and in future on or before the 1st day of May in each year. And any such owner or occupier neglecting so to do, shall forfeit and pay for every such neglect a sum not less than three nor more than twenty dollars, and a like sum for every week's neglect after the time above specified.

SEC. 6. No vendor of meat at the stalls shall be permitted to leave any stale meat, heads, feet, or offal of any kind about their stalls or stores over night, or suffer them to be thrown into any street, lane, or alley of the city. Nor shall any sellers of fish be permitted to throw any offals of fish into any street, lane, or alley of the city, or upon any wharf, but shall either bury them or throw them into the river beyond low-water mark.

SEC. 7. If any dead animal or decaying vegetable substance, or any other nuisance, shall be found in any part of the city, the owners or occupiers of the premises where such nuisances shall be found shall cause the same to be removed within twenty-four hours after being notified so to do by one or more of the health officers.

SEC. 8. In the location of all new slaughter-houses, application must first be made to the mayor, who, in co-operation with the board of health, or such other committee as the city councils may hereafter select, shall decide whether the site proposed is such as shall not be an annoyance to any dwelling or public thoroughfare; and no offensive matter shall be suffered to remain over night in or about any slaughter-house.

SEC. 9. It shall be the duty of said health officers or health committee to be vigilant in searching out all sources of filth and causes of sickness named in any of the foregoing sections of this ordinance, and see that they are seasonably removed; and in case of the neglect or refusal of any owner or occupier of any premises about which such filth or nuisance shall be found to remove the same within twenty-four hours after being notified so to do by one or more of the health officers, the said health officers shall cause the same to be removed, and said owner or occupier shall be liable to pay the expense of said removal, in addition to the penalty prescribed in this ordinance, which penalty and expense may be recovered by prosecution before the police court of this city.

SEC. 10. The health officers may remove any person infected with the small-pox, the malignant cholera, or other malignant pestilential disease, to some suitable house to be provided by the city for that purpose, provided the same can be done without endangering the life of such person: and may, under direction of the mayor and aldermen, make such regulations respecting such houses and for preventing unnecessary communication with such persons or their attendants as they may think proper: and if any person or persons shall willfully violate the same, it shall be the duty of the city marshal, on complaint of the health officers, forthwith to prosecute such person or persons under the second section of the one hundred and second chapter of the general statutes, that he or they may be fined accordingly.

SEC. 11. In all cases where any disease named or alluded to in the preceding section shall arise or prevail, it shall be the duty of the health officers to perform all the services incidental thereto.

SEC. 12. When any householder shall know that any person within his family is taken sick of the small-pox, or any other disease dangerous to the public health, he shall immediately give notice thereof to the health officers.

SEC. 13. When any physician shall know that any person whom he is called to visit is infected with the small-pox, or any other disease dangerous to the public health, such physician shall immediately give notice thereof to the health officers.

SEC. 14. If any such householder or physician shall refuse or neglect to give the notice required in the preceding sections, he shall for each refusal or neglect forfeit the sum of twenty dollars, to be recovered by either of the health officers in the name of the city.

SEC. 15. The health officers, and each or either of them, shall inquire into all nuisances and other causes of danger to the public health; and whenever they shall know or have cause to suspect that any nuisance or other thing injurious to the public health is in any building, vessel, or inclosure, they shall make complaint, under oath, to the justice of the police court, who shall issue his warrant, directed to the city marshal, to proceed with the health officers to search such building, vessel, or inclosure; and they may, by virtue thereof, in the day-time, forcibly enter therein and make such search.

SEC. 16. The health officers may give written notice to the owner or occupier of any building, vessel, or inclosure to remove or destroy any nuisance or other thing deemed by them, on examination, to be injurious to the public health, within a certain time limited therein; and in case such owner or occupier, the said notice having been given to him or left at his usual place of abode, shall neglect to comply therewith, the said health officers may, by direction of the mayor and accompanied by the city marshal, forcibly enter such building, vessel, or inclosure, and cause said nuisance or other thing aforesaid to be removed or destroyed.

SEC. 17. And the health officers may employ such assistants and laborers as may be necessary; and if resisted, they and the city marshal may command assistance; and any person willfully resisting them or their assistants or laborers in making such search, or removing any nuisance or other thing aforesaid, shall be prosecuted by the city marshal, under the provisions of the fourth section of the one hundred and first chapter of the general statutes.

SEC. 18. When the owner of any building, vessel, or inclosure shall be unknown to the health officers, or shall not reside in the city, and the same shall be unoccupied, or the occupant is, in the opinion of the health officers, unable to remove the nuisance or other thing as aforesaid, they may, without any previous notice, immediately cause any nuisance or other thing, by them deemed injurious to the public health, found therein, to be removed or destroyed.

SEC. 19. The owner or occupier of any building, vessel, or inclosure shall be liable to pay the expense of the removal or destruction of any such nuisance or other thing as aforesaid, including fees of the health officers who order or cause the same to be removed, and the same may be recovered by action to be brought in the name of the city.

SEC. 20. No person shall use or occupy any building in the compact part of the city for a slaughter-house, or for trying tallow, or for currying leather, or for the deposit of green pelts or skins, unless under such restrictions and regulations as the health officers may impose.

SEC. 21. No person shall erect, keep, or continue, or permit to be erected, kept, or continued, upon any land occupied by him, any pen for the keeping of swine, or privy, over either of the mill-ponds in this city, or so placed that offensive substances therefrom shall be discharged or drained into either of said ponds, or into any creek, or cove, or drain leading thereto. And no person shall construct, keep, or continue any drain leading from any pen for the keeping of any swine, slaughter-house, privy-vault, or other unwholesome or offensive place, into either of said ponds, or to any flat or marsh adjoining the same. And no person shall throw, or suffer to be thrown, from his land into either of said ponds, or upon any of said flats or marshes, any dead, decaying, unwholesome, or offensive animal or vegetable substances.

SEC. 22. Any person or persons who shall violate any rule or regulation, or commit any act forbidden in any section of this ordinance,

to which no special penalty is annexed, shall forfeit and pay a sum not less than one dollar nor more than twenty dollars, to be recovered by complaint before the police court of this city.

SEC. 23. The health officers shall be paid a reasonable compensation for their services, to be determined and regulated by the board of mayor and aldermen, and all reasonable expenses incurred by them in the execution of their duty shall also be paid by the city; and a true account, under oath, of all their receipts and disbursements, shall be laid before the board of aldermen once in six months, and oftener if required.

OF QUARANTINE.

SECTION 1. For the preservation of the public health, and to prevent the introduction of contagious and malignant diseases into this city, there shall be a regular system of quarantine established, and all vessels liable thereto, as designated in the succeeding section, shall perform said quarantine in that part of the harbor of Piscataqua lying within a line drawn from Fort Constitution to the northwardmost of the Fishing Islands and a line drawn due west from Wood Island; and all such vessels on entering the harbor shall be brought to anchor on said grounds, and there wait the orders of the health officers.

SEC. 2. A quarantine shall be performed by all vessels, officers, crews, passengers, and cargoes which shall arrive within the harbor of the river Piscataqua and port of Portsmouth, on and after the 31st day of May and until the 1st day of November in each year, from any port or place between the latitude of Georgetown, in South Carolina, and the tropic of Capricorn; or from any other port or place where the malignant cholera, malignant fever, or other malignant or contagious diseases shall prevail, and by all vessels on board of which any sickness may have prevailed during their homeward passages. But no quarantine will be exacted of vessels coming from beyond the Cape of Good Hope or of vessels from the Cape de Verde Islands laden wholly with salt, unless contagious diseases were known to have prevailed at those places at the time of their departure, or unless such vessels have had sickness on board during their voyage home.

SEC. 3. The board of health shall from time to time appoint a suitable person, whose duty it shall be to board any vessel liable to perform quarantine, and to deliver to the master thereof a copy of the ordinances of this city relating to quarantine, and a flag to be carried by his vessel in case said vessel shall need to be cleansed, in which case he shall immediately notify the physician of the board of health; and in case said vessel shall not need to be cleansed, or there shall not be any malignant, contagious, or infectious disease on board, then said person shall give a permit to such vessel to proceed to any wharf or landing-place in this city, for which service or permit he shall be entitled to receive three dollars from the master of such vessel.

SEC. 4. All vessels having on board any person infected with the small-pox, plague, pestilential, or malignant fever, or other malignant, infectious, or contagious disease, or who shall have been so infected during the voyage, or have on board any goods reasonably supposed to have any infection of such disease, shall perform quarantine at the place named in the first section of this chapter; and the master of any such vessel shall proceed with and anchor her at such place, there to be purified and cleansed, as the health officers may direct; and a suitable place on shore shall be prescribed and properly limited by the health officers for the purification of the cargo of such vessel.

SEC. 5. The health officers may seize any goods landed from such vessel without their permission, and remove and keep the same until they have caused the same to be thoroughly cleansed. The expenses of such purification of the vessel and her cargo shall be paid by the master, owner, or consignee before the vessel is discharged from quarantine, and no vessel shall be discharged without a certificate from at least two of the health officers, one of whom shall be the physician.

SEC. 6. Any person sick on board such vessel may be sent on shore by the said health officers, at some place by them appointed and limited for that purpose, to be there maintained and provided for at his own expense, or, if unable, at the expense of the city; the expense to be recovered by the city from the town or county that may be chargeable for his support under the provisions of chapter 103 gen-

eral statutes, unless such sum, either in whole or in part, shall be paid by the United States according to law.

SEC. 7. No person shall come on shore from any vessel infected or justly suspected of being so, or subject to or ordered for quarantine, or performing it, nor shall leave the place appointed for the sick or purification, being employed or placed there by the health officers, without their permission. If any person shall, without permission from the health officers, go on board any vessel ordered for or performing quarantine, or go within limits appointed by them for the reception of infected persons and property on shore, he shall be considered as infected, and held to undergo purification in the same manner and under the same regulations and penalties as those who are performing quarantine.

SEC. 8. A red flag of at least six feet in length shall be hoisted and displayed, day and night, at the head of the mainmast of any vessel ordered for quarantine, until such vessel shall be entirely cleansed, and also on a flag-staff at the place appointed for the reception of the sick and for the purification of infected goods, so long as they shall remain there.

SEC. 9. All pilots of the harbor of Piscataqua shall be duly notified of these regulations by the health officers, and said pilots shall make known these regulations to the masters of all vessels they shall board or to whom they shall have opportunity to communicate the same. And any pilot who shall pilot any vessel subject to quarantine to or near any wharf, shall be liable to prosecution therefor as pointed out in the statute.

SEC. 10. And the health officers shall communicate a copy of this ordinance to the commander of Fort Constitution, and desire his co-operation in carrying it into effect, agreeably to the provisions of the thirteenth section of the one hundred and third chapter of the general statutes.

SEC. 11. All fines and forfeitures for the violation of these regulations shall, on complaint of the health officers, be recovered by prosecution against the offenders, by the city marshal under the provisions of the above-named statute.

SEC. 12. The physician of the board of health shall be entitled to receive five dollars for each visit necessarily made to any vessel at quarantine needing to be cleansed, or on board of which shall be any person sick with any malignant, infectious, or contagious disease, and each of the other members of the board shall be entitled to receive three dollars for each such visit, to be paid by the master of such vessel; but no member shall receive pay for more than one visit on any one day.

MISCELLANEOUS.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

THE following reports, for the week ending December 6, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., population 3,900; accident 1. Brumswick, Ga., 3,000; no deaths. Edgartown, Mass., 1,700; 2 deaths. Franklin, Ind., 4,000; 2 deaths. Murfreesborough, Tenn., 4,000; pneumonia, 1. Total population, 16,600; total deaths, 6; rate per 1,000, 18.9.

THE following reports, for the week ending December 6, are from places in which burial permits are not required:

Allegheny, Pa., population 75,000; deaths 13; under 5 years 3; consumption 2, diphtheria 1, lung diseases 2. Bath, Me., 10,000; deaths 4; under 5 years 2; consumption 1, dysentery 1, scarlet fever 1. Battle Creek, Mich., 7,500; deaths 3. Benton County, Miss., 11,000; consumption 1. Calais, Me., 7,000; consumption 1, pneumonia 1. Carrollton, Miss., 600; no deaths. Davenport, Iowa, 25,000; deaths 5; under 5 years 2; consumption 1, diarrhea 2, lung diseases 2. Decatur, Miss., 1,000; consumption 1. Dixon, Cal., 1,200; no deaths. Fayette, Miss., 300; no deaths. Flint, Mich., 10,000; pneumonia 1. Helena, Mont., 3,500; deaths 2. Jackson, Miss., 5,000; no deaths. Louisiana, Mo., 5,000; lung disease 1, mepheral fever 1. Mansfield, Ohio, 11,000; no deaths. Morton, Miss., 200; no deaths. Mount Pleasant, Iowa, 5,000; deaths 1; under 5 years 2; consumption 1. Niles, Mich., 4,650; scarlet fever 2, under 5 years. Painesville, Ohio, 5,000; no deaths. Ripley, Miss., 1,000; no deaths. Shelbyville, Tenn., 2,000; consumption 1. Tampa, Fla., 1,000; no deaths. Tuscaloosa, Ala., 1,000; one death under 5 years. Waterbury, Conn., 16,000; deaths 3; consumption 1. Winona, Minn., 11,786; typhoid fever 1. Youngstown, Ohio, 17,000; deaths 5; under 5 years 2; consumption 1, croup 1, diarrhea 1, typhoid fever 1. Total population, 211,716; total deaths, 19; under 5 years, 14.

WEEKLY SUMMARY OF MORTALITY.

The tabulated reports for the week ending December 6, from places in which burial permits are required, represent a population of 7,632,408, and a total mortality of 2,652. The annual rate of mortality remains nearly the same as last week, having declined from 18.2 to 18.1 per 1,000; but the death rate under five years, which had suddenly risen to 41.5, has fallen to 37.7 per cent. of the total deaths. Coincident with this change, the rate for diarrheal diseases has decreased from 2.93 to 2.24, and for scarlet fever from 3.58 to 3.29 per cent. *Diphtheria* has increased from 6.07 to 6.15; it prevails in most of the large cities north of 37° latitude, only 7 deaths out of 159 occurring

in ten of the chief towns south of that line. *Scarlet fever* is still extensively epidemic, but has declined, as noted above. The 87 deaths from this disease are nearly all above the latitude of North Carolina and 22 deaths are reported from the city of Providence, R. I., alone. In this city the disease has been epidemic for some time, and 54 deaths from it are reported for the month of November. The disease prevails at present in most of the large cities north of Washington and from Massachusetts to the Mississippi. *Typhoid fever* has increased since last week from 1.63 to 1.90 per cent. of the general mortality; the States of New York, Pennsylvania, and Maryland present nearly half of the 51 deaths, and the disease is not confined to cities, but prevails extensively among the village and rural population, especially along the hill country of the Blue Ridge and Alleghany Mountains. *Acute lung diseases* show a small increase, which does not balance a reduction in the mortality from consumption, and the death rate from both combined has declined from 27.7 to 26.9 per cent. of the total mortality. *Consumption* in the United States must be studied with reference to the influence of race as well as of climate. The ten cities in which the colored population is a large element (see note to table of United States cities) should be compared with a corresponding aggregate population in the cities of New England. In illustration, it should be stated that the general rate of mortality is in favor of the latter, being 18.2 against 23.6 for the Southern cities. In these the colored people comprise 35.7 per cent. of the population; the annual rate of mortality among the whites is 20.5, while that of the colored people is 29.1 per 1,000. With this greater mortality among the colored population, it is to be observed that the deaths from consumption constitute in New England 4.9, and in the South 17.2 per cent. of the total mortality. On adding acute lung diseases, the rate becomes 24.9 for the North, and 31.5 in the South. In the absence of separate reports for the races, it is to be inferred from the above figures that the greater mortality from consumption and acute lung diseases in the Southern cities, as compared with New England, indicates great prevalence of those diseases among the colored people at the South. *Small-pox* has appeared in Philadelphia and in the District of Columbia, one death occurring in each place. During the week ending November 15 one death was reported in New York, being the only one recorded in the United States since August 30, excepting seven deaths in October at San Antonio, Tex., all of which were among the Mexican population.

Monthly report of mortality in cities of the United States.

Places	Month	Population	Deaths under 5 years	Total number of deaths	Annual death rate per 1,000	Cerebro-spinal fever	Consumption	Diarrheal diseases	Diphtheria and croup	Erysipelas	Lung disease, acute	Malarial fevers	Measles	Scarlet fever	Small-pox	Typhus and typhoid fevers	Whooping-cough	Yellow fever
Chicago, Ill.	1879	537,624	338	719	16.9	3	63	20	140	2	85	11	61	17	1	1	2	....
District of Columbia	October	170,000	257	181	18.1	39	35	11	11	2	12	2	2	12	1	1	2	....
Dunkirk, N. Y.	November	7,000	4	7	13.7	1	1	1	1	1	1	1	1	1	1	1	1	....
Elmira, N. Y.	do	20,436	19	11.2	1	1	2	1	2	1	2	1	2	2	1	1	1	....
Erie, Pa.	do	30,000	20	8.0	4	1	1	1	1	1	2	1	1	1	1	1	1	....
Flint, Mich.	do	10,000	12	14.4	2	2	2	2	2	2	2	2	2	2	2	2	2	....
Hudson County, New Jersey	October	199,000	66	310	15.6	34	34	34	34	34	34	34	34	34	34	34	34	....
Keokuk, Iowa	November	15,000	8	19	15.2	2	2	2	2	2	2	2	2	2	2	2	2	....
Laurens, Mich.	do	10,000	6	11	13.2	1	1	1	1	1	1	1	1	1	1	1	1	....
Mobile, Ala.	October	10,000	26	77	24.1	1	9	3	1	1	15	1	1	1	1	1	1	....
Savannah, Tenn.	do	25,000	20	49	17.7	6	7	1	1	1	1	1	1	1	1	1	1	....
Nashville, Tenn.	November	25,000	10	40	17.8	2	11	5	1	1	4	1	1	1	1	1	1	....
New Haven, Conn.	do	60,000	17	53	11.6	15	1	6	1	1	7	1	1	1	1	1	1	....
Norfolk, Va.	do	24,000	20	65	25.3	7	1	4	1	1	11	1	1	1	1	1	1	....
Paterson, N. J.	October	101,500	66	310	15.6	34	34	34	34	34	34	34	34	34	34	34	34	....
Plattsburgh, N. Y.	November	9,000	4	11	11.7	1	1	1	1	1	1	1	1	1	1	1	1	....
Providence, R. I.	do	10,000	10	84	21.3	9	3	10	3	3	3	3	3	3	3	3	3	....
Richmond, Ind.	October	31,000	3	38	6.9	1	3	1	1	1	1	1	1	1	1	1	1	....
Saint Paul, Minn.	do	34,000	21	38	8.9	1	3	1	1	1	1	1	1	1	1	1	1	....
Santa Barbara, Cal.	do	4,000	2	11	33.0	1	1	1	1	1	1	1	1	1	1	1	1	....
Scranton, Pa.	November	10,000	30	12	13.6	2	2	2	2	2	2	2	2	2	2	2	2	....
Selma, Ala.	do	7,070	4	18	30.5	2	2	2	2	2	2	2	2	2	2	2	2	....
Shelby County, Tennessee	do	16,948	16	94	14.8	1	1	1	1	1	1	1	1	1	1	1	1	....
Syracuse, N. Y.	do	55,000	13	52	1.3	13	1	3	1	3	1	1	1	1	1	1	1	....
Vineland, N. J.	do	8,500	1	6	1.1	1	1	1	1	1	1	1	1	1	1	1	1	....
Wheeling, W. Va.	do	35,000	27	49	16.8	3	1	23	3	3	3	3	3	3	3	3	3	....
Totals		1,512,350	668	2,291	17.1	6	260	119	279	7	201	52	12	17	166	59	6	24

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cases.	Deaths.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
			1870.											
Vancouver's Island.	Victoria	4,000	Nov. 29	1	13.0									96.0
Canada	Montreal	135,000	Dec. 6	60	21.2								1	21.6
Do	Kingston	16,000	Nov. 29	5	16.3									20.2
Do	do	16,000	Dec. 6	6	6.5									29.7
Do	St. John's	5,000	Dec. 13	2	24.0									20.0
Do	Charlottetown	12,000	Dec. 2	2	16.7									22.9
New Brunswick	St. John	16,000	Nov. 29	11	13.8					1	2	1		32.8
Bermuda	Hamilton	14,867	Dec. 2	3	16.5									69.4
Do	do	14,867	Dec. 9	7	21.5									70.3
West Indies	Tort's and Valies Islands.	3,500	Nov. 15	2	29.8									82.0
Do	do	3,500	Nov. 22	3	14.7									81.7
Mexico	Vera Cruz	15,850	Nov. 16	24	29.0									82.0
Do	do	15,850	Nov. 23	16	32.6									83.0
Do	do	15,850	Nov. 30	29	29.8									82.0
Do	Acapulco	3,500	Nov. 8	11	164.0									86.0
Do	do	3,500	Nov. 15	9	131.2									86.0
Do	do	3,500	Nov. 22	6	59.5									85.0
Teneriffe	Sania Cruz	16,610	Nov. 15	13	28.8									82.0
Do	do	16,610	Nov. 15	8	25.1									80.0
Ireland	Queenstown	10,000	Nov. 22	1	20.8									80.0
Do	do	10,000	Nov. 23	6	31.3									80.0
Do	Belfast	212,000	Nov. 15	7	14.1									80.0
Do	do	212,000	Nov. 29	94	24.1									80.0
Scotland	Glasgow	378,126	Nov. 22	239	20.7									80.0
Do	do	378,126	Nov. 29	185	16.7									80.0
Do	Dunfermline	150,923	Nov. 29	14	11.0									80.0
Do	Newcastle-on-Tyne	150,923	Nov. 29	63	21.8									80.0
Do	Leith	57,000	Nov. 29	16	11.6									80.0
England	Sheffield	297,138	Nov. 15	127	22.4									80.0
Do	do	297,138	Nov. 22	14	11.0									80.0
Do	Newcastle-on-Tyne	146,948	Nov. 29	25	20.6									80.0
Do	Bristol	210,000	Nov. 22	104	25.8									80.0
Do	London	3,620,808	Nov. 22	1,560	25.3									80.0
Do	do	3,620,808	Nov. 29	1,802	25.9									80.0
France	Hayre	92,068	Nov. 15	53	30.0									80.0
Do	do	92,068	Nov. 22	59	23.3									80.0
Do	Rome	104,902	Nov. 29	55	27.3									80.0
Do	Paris	1,988,806	Nov. 20	949	24.1									80.0
Do	Toulon	77,000	Nov. 9	59	49.0									80.0
Do	Lyons	342,815	Nov. 8	131	19.9									80.0
Do	Nice	49,775	Nov. 15	35	36.7									80.0
Do	do	49,775	Nov. 22	38	39.8									80.0
Switzerland	Zurich	42,000	Nov. 15	5	11.8									80.0
Holland	Amsterdam	208,952	Nov. 22	124	20.9									80.0
Do	Rotterdam	147,000	Nov. 29	62	22.0									80.0
Belgium	Brussels	399,482	Nov. 30	160	23.9									80.0
Saxony	Dresden	245,440	Nov. 15	71	27.8									80.0
Do	Chemnitz	89,000	Nov. 15	50	24.3									80.0
Do	Leipzig	145,719	Nov. 15	77	27.6									80.0
Do	do	145,719	Nov. 22	65	23.3									80.0
Bavaria	Munich	90,000	Nov. 15	72	18.1									80.0
Germany	Frankfort	126,000	Nov. 8	413	11.1									80.0
Do	Wittenburg	105,825	Nov. 22	50	24.6									80.0
Do	Breslau	270,000	Nov. 15	131	25.3									80.0
Do	Bremen	105,000	Nov. 8	47	24.3									80.0
Do	Mannheim	48,000	Nov. 29	18	19.5									80.0
Do	Barmen	93,000	Nov. 22	24	12.9									80.0
Do	Berlin	1,062,500	Nov. 8	444	11.1									80.0
Do	do	1,062,500	Nov. 22	5	11.8									80.0
Denmark	Copenhagen	108,155	Nov. 15	35.9	9.9									80.0
Italy	Leghorn	97,800	Nov. 29	56	29.8									80.0
Do	Carrara	26,500	Nov. 24	17	14.5									80.0
Do	do	26,500	Nov. 30	11	27.8									80.0
Austria	Tientsin	127,874	Nov. 15	74	29.8									80.0
Do	Vienna	737,255	Nov. 22	351	21.8									80.0
Do	Buda Pesth	169,305	Nov. 15	181	11.0									80.0
Roumania	Bucarest	211,300	Nov. 29	145	35.8									80.0
Russian Poland	Warsaw	336,703	Nov. 15	182	29.2									80.0
Finland	Helsingfors	36,000	Nov. 29	22	31.1									80.0
Sweden	Stockholm	169,129	Nov. 15	79	18.2									80.0
Spain	Malaga	115,802	Nov. 9	80	36.0									80.0
Do	do	115,802	Nov. 23	88	39.6									80.0
Barbary	Tripoli	20,000	Nov. 8	36	83.9									80.0
Do	do	20,000	Nov. 15	63	164.1									80.0
Cape Colony	Cape Town	35,000	Nov. 10	22	32.2									80.0

* The reports from Berlin are for the hospitals only.

CONSULAR REPORTS

AMOI, CHINA, October 10.—United States Consul W. E. Goldsborough transmits a copy of a letter addressed by him to Dr. P. Manson, a physician of extensive practice there, requesting his assistance in filling the reports required by the United States Government. Dr. Manson replies that as no statistics are kept by the Chinese authorities, he can only furnish general statements as to the presence or absence of epidemic diseases in the city.

CADIZ, SPAIN.—United States Consul A. A. Duffie, under date of November 21, states that the Spanish Government, by decree published in the *Gaceta* of November 16, at Madrid, has declared *clean* all the imports and vessels arriving from the port of New Orleans.

BALIZE, BRITISH HONDURAS.—Authentic information has been received that the masters of the vessels of Messrs. O'Brien, of New Orleans, trading with Balize and Bay Islands, are accustomed to clear without taking a bill of health from Balize on the voyage to New Orleans.

VALPARAISO, CHILE.—United States Consul L. H. Foote reports for the month of November 1,333 deaths in a population of 101,088, being at the annual rate of 15.2 per 1,000. Of this excessive mortality small-pox caused 67 deaths, being more than half of the deaths from all causes, and at the annual rate of 80.5 per 1,000 of the population.

COLOMBO, CEYLON.—United States Consul W. Morly reports, October 25, that no statistics can be obtained as to diseases and deaths. The population of Colombo is estimated at 100,000, and of Ceylon at two and a half millions. Malarial fevers and dysentery were the prevailing diseases, and they were mostly of a mild type. The mean temperature was 81°.

NAGASAKI, JAPAN.—United States Consul W. P. Mangum states that he has not yet been able to obtain statistics for filling weekly reports. He gives the mortality from the late epidemic of cholera, from June 15 to October 25, as follows: In the whole *ken* (district) of Nagasaki, comprising a population of about 1,173,263, there were 6,250 cases, 3,108 deaths, 2,392 recovered, and >40 remaining under treatment. The port of Nagasaki has a population of 60,000.

RIO DE JANEIRO, BRAZIL.—United States Consul Thomas Adamson sends reports for nine weeks, beginning August 30 and ending November 8. In this period 17,119 deaths are reported, or a mean of 131 deaths per week. The population is not given, but, estimating it at 450,000, the annual rate of mortality would be 22.1 per 1,000. The causes of death recorded and the total numbers for the nine weeks are as follows: small-pox, 31; pernicious fever, 67; yellow fever, 19; typhoid fever, 21; and typhus fever, 1. The deaths from consumption amount to 190 for 5 weeks, giving a mean of 38 per week.

POINT A PITRE, GUADELLOUPE.—United States Consul Charles Bartlett sends with his report for the week ending November 22 a copy of a communication addressed to him by the authorities. This letter admits that the sanitary condition of Basseterre is bad, and that three fatal cases of yellow fever had recently occurred among the newly arrived troops. The soldiers had been removed to Camp Jacob, and the disease had not spread among them nor in the town. No yellow fever reported from other parts of the island.

JAMES TOWN, ST. HELENA.—United States Consul George W. Roosevelt reports only three deaths, in a population of 6,241, during the month of November—one from disease of the brain, one from lung disease, and one from rheumatism.

HIOGO, JAPAN.—Mr. J. Stahel, United States consul for the districts of Osaka and Hiogo, forwards the report of Dr. James Harris, medical director of the international hospital. Seven nationalities are represented among the thirty-seven patients treated during the year ending June 30, 1879: British, 15; American, 6; Swedish, 5; German, 3; French, 2; Danish, 2; Russian, 1. Only three deaths occurred, one from injuries, one from delirium tremens, and one from diarrhoea.

Mr. Stahel also sends a summary of the deaths from cholera in Hiogo *ken* (district) from the beginning of the epidemic to October 15. He reports 5,437 deaths: 3,057 male, 2,381 female. Recovered, 1,091 males, 969 females; total, 2,060. Remaining under treatment, 820 males, 572 females; total, 1,392.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

MEMPHIS, TENN., December 11.—Dr. S. H. Collins reports several scattered cases of yellow fever in the city, which are not officially reported. There is also some scarlet fever.

CHATTANOOGA, TENN.—Dr. W. T. Hope, under date of December 9, reports this city and vicinity unusually free from disease. Only two cases of scarlet fever have occurred recently, one of which is supposed to have been imported.

FOREST CITY, ARK., December 6.—Dr. J. B. Cummings writes that since November 22 two new cases of yellow fever, both fatal, had occurred in that city. He is unable to explain the introduction of the disease into Forest City, the absence of those who could give information rendering it impossible to obtain the facts required.

NORFOLK, VIRGINIA.—The report of quarantine officer H. M. Nash, from May 1 to October 31, 1879, shows the arrival of 55 vessels, of which 25 were from ports of the West Indies and Bahamas, and 3 from South America. None of these were infected, and only a few vessels were in foul condition of hold or bidge.

MUSKEGON, OHIO, November 12.—Dr. E. J. Wells reports that for three months diphtheria has been epidemic in the town, and has proved exceedingly fatal in proportion to the number of cases, the disease

seemingly scarcely amenable to any treatment. Measles also prevail, and often appear as a complication in cases of diphtheria.

BOULDER, COLORADO.—Dr. Charles Ambrook reports diphtheria of a mild type prevailing, but no deaths from any cause during the month of November, in a population of forty-two hundred. The town authorities do not provide for burial permits, nor records of undertakers or physicians as to deaths and their causes. Dr. Ambrook remarks that a National Board of Health is a national necessity, to educate the people in sanitary affairs and to substitute systematic and organized measures of prevention for the present spasmodic action in the immediate presence of epidemics.

BURLINGTON, VT.—Dr. George A. Ockford sends the following report of the health of the city for the month ending December 10:

A severe form of influenza, almost epidemic in character, has prevailed. Measles have nearly disappeared, after having been epidemic for several months to such an extent that out of about 950 children in the public schools 340 have been absent during some part of the past three months on account of measles. Rheumatism and diseases of the respiratory organs have increased to some extent. The weather has been very changeable, but the average temperature is higher than usual for this season.

PILOT POINT, DENTON CO., TEX.—Dr. R. W. Dorsey writes as follows, November 24:

Pilot Point is located on the road leading from Sherman to Fort Worth and to the grazing-lands in the western part of this State. The site of the town is on a high prairie near the eastern edge of a belt of timber-land known as the "Lower Cross-Timbers."

This town contains about one thousand inhabitants, mostly Americans, with very few blacks. The soil is of a chocolate color, and is commonly termed "black sandy." Underlying it in places is a stratum of coarse red sandstone. The houses are made of wood, with the exception of two stores, which are built of brick. There are 22 stores, 4 churches, and only 2 grog-shops. A greater number of the houses are two stories high.

The water supply here is chiefly from wells, and is generally of bad quality, and has more or less a brackish taste. There are a few cisterns, and some people run the rain water from their roofs into their wells. Water is found here at a depth varying from 30 to 50 feet. In dry seasons like this many people bring creek-water and put it into their wells, where it is kept for use. On account of this scarcity of water there is much suffering among the stock, many of the cows dying from this cause.

Regarding the sanitary condition of this place, I will say that a worse state of affairs could not probably be found in any other place of its size, composed almost entirely of white Americans, in the United States. The public square is a stopping-place for almost every one bringing horses and teams into the place, and on several other vacant lots, and in the various wagon yards, there are at nearly all times camping parties of freighters, families of emigrants, and other transient people, almost all of whom, as well as the people in the stores, use the water from the polluted well in the middle of the square. The accumulations of every species of filth, such as scraps of meat and bread, bones and hides, cast-off boots and shoes, and clothing of every kind, mixed with the fecal discharges of hogs, cattle, horses, and even people, are here pulverized by being walked and ridden over, and stirred up by the hogs, the latter being sometimes killed and sold for human food while fresh from this pasture of deathly abominations.

The privies are in many cases located without regard to privacy. Consequently, as convenience is sometimes only consulted, there are some instances in which they are placed with their backs to the streets, and not even a wall or fence to protect or separate them from the sidewalk. As there are neither pits or boxes under many of them it happens that the matter deposited on the ground is scattered around by the fowls and hogs. Now, as the wind blows here often incessantly for days and nights, it happens that a liberal supply of matter is carried in clouds of dust all over the town and country. Most of the wells being always open are polluted by it. Every house and store receives it, and every living creature imbibes a part of this filth in its food, water, and in every breath of air he inspires. From all this matter scattered over the town there arises at times a stench that is absolutely sickening and is often a subject of remark among people passing through the place. As might be expected, the rate of mortality here is very great. During the last and present years it has been fearful, there being as yet very little abatement. Dysentery, diarrhoea, intermittent, remittent, and typho-malarial fevers have been very prevalent. From the latter form of fever the deaths have been very frequent. There have been several frosts but they seemed not to have much influence upon the prevailing sickness. The number of burials now occurring reminds one painfully of an epidemic condition.

There is no law existing, so far as I know, for the suppression of these nuisances.

National Board of Health

BULLETIN.

Vol. 1.]

WASHINGTON, D. C., SATURDAY, DECEMBER 27, 1879.

[No. 26.]

REAPPEARANCE OF SMALL-POX IN THE UNITED STATES.

The attention of health officers and sanitarians is called to the appearance in the United States of small-pox, and an evident tendency toward its out-cropping in other cities than those in which it has already been noted.

Since the 15th of November deaths from this disease have been reported in the cities of New York, Philadelphia, Washington, and San Antonio. In Philadelphia, with its long immunity from this affection, extending over several years, and in the District of Columbia, there is enough of evidence to show the tendency to spread, previously mentioned, from centers so far removed from each other as to preclude the idea of transmission by actual contact, as a search into the definite origin of the earliest reported cases has as yet failed to reveal any facts concerning either the mode of origin or transmission. The history of the earliest cases thus far reported in Washington are detailed in this number of the BULLETIN. It is worthy of note here that this disease has existed along our borders for some time—for example, at Montreal, St. Johns, N. B., Havana, and Matamoros—and also that all of the principal cities of Europe have furnished cases—more especially Paris, which has reported 214 deaths since August 21.

A communication from Dr. T. C. Minor, health officer of Cincinnati, Ohio, to the National Board of Health, invites the attention of those interested in the prevention of the spread of small pox and other diseases to the importation as well as the inter-state shipment of rags as a carrier of this and other diseases. Dr. Minor states that rags gathered during the summer from yellow fever infected localities and from infected persons are being forwarded to eastern points, and also that rags, bedding, and second-hand clothing from cities and persons affected with small-pox may become the carriers of variola from foreign as well as domestic ports to the United States. It is well known that in 1873, in Massachusetts, the origin of small pox in eleven cities in that State was traceable directly to the importation of rags from foreign or domestic places. No further warning is deemed necessary to be given at present concerning the appearance of this eminently preventable disease.

The sanitary management of the sick with this affection is too well known to every physician to be reproduced here. In view, however, of the probable appearance of this disease in other localities, it is proper to remind every one interested in its prevention and spread that the only absolute preventive measure necessary is *compulsory and thorough vaccination and re-vaccination*.

REPORT ON SMALL-POX IN THE DISTRICT OF COLUMBIA.

Dr. S. Townshend sends to the National Board of Health the following report of the recent outbreak of small-pox in this District, under date of December 23:

I have the honor to present the following facts connected with a recent outbreak of small-pox in this District, for consideration of your honorable body: On November 28 ultimo the sister superior in charge of Providence Hospital reported to this department a case supposed to be small-pox: a colored man named Jesse Williams, twenty-one years of age, who had been six weeks in the institution and who had come there from a country district in Virginia, affected with and in the last stages of consumption. The first examination made by our medical inspector in company with the hospital physicians did not satisfy them as to the exact character of the disease, and it was decided to make further examination on the following day. This was done, and the case ascertained to be one of confluent small-pox. The man was at once removed to hospital, with all bedding, clothing, &c., and the room he had occupied fumigated and disinfected. He died December 6. The most careful investigation in this case failed to reveal any history of communication by contact. Nothing further was heard of the disease until the 18th instant, when a case was reported at the United States jail, in a colored boy sixteen years of age, who had been eight months a prisoner in the institution, which is an entirely new structure. In this case, again we were unable to trace the contagion to its source. On the day following the report of this case three others were reported by physicians in different portions of the southeastern section of the city, and still again the most careful investigation and inquiry failed to reveal any history of contagion. Indeed, the short time elapsing between them all would preclude the possibility of adopting the theory of communication from one to another.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending December 13 represent an aggregate population of 7,092,062, and a total of 2,547 deaths. The annual rate, which was 18.1 last week, has fallen to 16.9; that this reduction is not due to a decrease in diseases of children is shown by the fact that the mortality under five years of age has only changed from 37.7 to 37.1 per cent. of the total deaths. *Scarlet fever* prevails, as before, mostly in Rhode Island, New York, New Jersey, Maryland, Ohio, and Illinois, those States reporting 84 of the 91 deaths. The disease has increased from 3.29 to 3.58 per cent. of the general mortality, presenting the same ratio now as on November 29. *Diphtheria* has decreased from 6.15 to 5.39 per cent.; like scarlet fever, it is almost confined to the latitudes north of Washington, not more than 10 deaths out of 157 being reported south of that line. *Whooping-cough* and *measles* have both steadily increased, but together caused only 2.25 per cent. of deaths. *Acute lung diseases* chiefly account for the reduction in the general rate of mortality, having declined from 13.1 to 11.5 per cent. of the total deaths. A comparison of the New England States with the ten southern ones, as made last week, still shows that pulmonary diseases are relatively more prevalent in the latter. *Consumption* has increased for the whole country from 14.1 to 15.5 per cent.; but this, added to acute lung diseases, represents but 25.3 in New England against 37.7 in the South. A notable feature in the distribution of these diseases is the fact that the four most fatal per cent. of deaths in the chief cities west of the Mississippi, and that a number of those cities, aggregating 667,000 population, present an annual death rate of only 10.2 per 1,000. *Small pox* was noted last week in Philadelphia and in the District of Columbia. It is still spreading to some extent in both places, though no deaths are reported this week. Notes on this disease will be found in the preceding article.

Report of mortality in cities of the United States for the week ending December 13, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Me.	Bangor	14,000	1	7	26.0		1		3										
N. H.	Concord	375,000	48	131	18.5		22	3	2		13		1						
Mass.	Boston	50,000	19	48	23.7		2	1	1		3								
	Cambridge	37,000	6	16	30.9		3		1										
	New Bedford	13,000	3	3	11.1		1												
	Newburyport	7,500	2	3	26.8		1		1										
	Marblehead	6,334									1								
	Fall River	16,000	4	32	9.9						1								
	Plymouth	52,000	4	15	15.0		2				1								
	Lowell	40,000	5	13	16.9		1	1			1								
	Lawrence	12,000	1	4	17.3														
	Brockton	10,000		5					1										
	Pittsfield	10,000																	
	Millis	23,000	1	4	9.1														
R. I.	Providence	16,000	4	40	20.5														
Conn.	New Haven	60,000	14	25	21.7		1		1		3				16		1	1	
	Norwich	17,000		1	3.0														
Vt.	Burlington	16,500	1	2	6.3				1										
N. Y.	New York	1,067,563	181	490	22.8	1	94	11	13	4	52	7	14	3	9		8	8	
	Brooklyn	220,000	4	2	30.8		30	5	22	3	50	2	2		1				
	Poughkeepsie	20,000	1	2	30.8		2				2								
	Newburgh	17,500	2	7	30.8						2								
	Hudson	8,784		1	6.9				1										
	Utica	96,000	10	23	13.3		4		2										
	Rochester	18,000	2	7	20.3		1				2								
N. J.	Ringhamton	199,000	34	66	18.7		4	2	3	1	6	1	1	1			2	3	
	Hudson County	991,300	68	202	16.3	1	56	1	5		20		1	1	2		1	6	
Penn.	Newark	300,000	2	5	8.7						1								
	Philadelphia	401,500	5	14	8.2		1		1		1								
	Erie	145,000	24	52	18.7		5	1	6	1	3						2	2	
	Reading	44,000	6	12	14.2		2		1		10								
Del.	Wilmington	400,000	54	141	18.4		21	1	5		8						5	1	
MD.	Baltimore	179,000	15	50	18.1		16				10						1	1	
District of Columbia		24,000	6	15	32.6		2	2			4	1							
Va.	Norfolk	80,000	13	27	17.6		4	2			3								
	Richmond*	37,000	11	32	29.3		3	2			4								
S. C.	Charleston*	32,656	10	20	31.9		1				4	2							
Ga.	Savannah*	26,874	3	10	19.4		2		2		3								
	Augusta*	41,548	5	9	11.3						1								
	Atlanta*	5,000		1	10.4														
Fla.	Rome	40,000	1	3	3.2														
	Jacksonville	40,000	1	13	16.9		4	3											
Ala.	Mobile	15,000	5	5	17.3						1								
Miss.	Vicksburg	5,300	1	1	9.8														
	Columbus	200,000	31	70	15.3		9	4	1		6	1							
La.	New Orleans*	7,000	1	3							2								
	Shreveport	32,000	2	4	9.5						1	1							
Texas.	Austin	27,675	4	12	23.1		3												
Ark.	Little Rock	12,000	3	5	21.7														
Tenn.	Nashville	175,000	10	41	12.2	1	7	1	1		7			1	1			1	
	Chattanooga	37,000	3	7	10.1						2								
Ky.	Louisville	175,000	10	41	12.2		14	2	3	1	5								
W. Va.	Wheeling	35,000	2	7	13.9						1								
Ohio	Cincinnati	175,000	28	48	11.3		1		3	3	1	1							
	Cleveland	39,000	3	11	14.7		1		1										
	Dayton	5,500																	
	Gallipolis	37,500	6	15	20.8		1	1	2		2								
Mich.	Port Huron	97,000	11	28	15.0		2		1		2								
Ind.	Evansville	11,000			16.6														
	Indianapolis	37,624	73	151	14.6	1	16		17	2	6		4		9		3	2	
Ill.	Chicago	40,000	2	3	4.5		4		6	1	5								
	Peoria	121,000	17	20	12.2						1								
	Quincy	52,000	3	8	8.0														
Wis.	Milwaukee	30,000																	
Minn.	St. Paul	45,000	4	13	10.4						1								
	Minneapolis	30,000	3	7	12.2														
Iowa.	Burlington	45,000	3	10	14.4														
	Dubuque	500,000	34	97	19.1	2	11	7	5	2	8		1	1	1				
	Keokuk	6,178	3	4	24.6						1								
Mo.	St. Louis	30,000	2	7	12.2						1								
Kans.	Lawrence	25,000	3	11	29.2						6								
Neb.	Omaha	300,000	24	85	14.8	1	11	3	2		7	1							
Utah.	Salt Lake City	25,000	1	6	12.5						2								
Cal.	San Francisco	5,000	1	4	11.7						1								
	Sacramento																		
	Vallejo																		
Totals.		7,002,052	944	2,547	16.9	8	386	50	137	15	291	24	26	15	91		51	32	

* District of Columbia has 111,000 white, 56,000 colored; deaths, 26 white, 33 colored. Rate per 1,000, white, 11.9; colored, 30.7. Norfolk has 14,087 white, 9,913 colored; deaths, 6 white, 9 colored. Rate per 1,000, white, 22.2; colored, 47.3. Richmond has 46,000 white, 34,000 colored; deaths, 11 white, 16 colored. Rate per 1,000, white, 12.5; colored, 24.5. Charleston has 25,000 white, 32,000 colored; deaths, 11 white, 21 colored. Rate per 1,000, white, 23.9; colored, 34.2. Savannah has 17,493 white, 15,167 colored; deaths, 13 white, 7 colored. Rate per 1,000, white, 38.8; colored, 24.4. Augusta has 15,241 white, 11,628 colored; deaths, 5 white, 5 colored. Rate per 1,000, white, 17.1; colored, 22.4. Atlanta has 25,773 white, 10,125 colored; deaths, 1 white, 5 colored. Rate per 1,000, white, 8.2; colored, 16.1. New Orleans has 16,000 white, 55,000 colored; deaths, 40 white, 30 colored. Rate per 1,000, white, 13.1; colored, 28.4. Nashville has 17,585 white, 9,500 colored; deaths, 9 whites, 3 colored. Rate per 1,000, white, 26.7; colored, 16.5. Chattanooga has 8,000 white, 4,000 colored; deaths, 3 white, 2 colored. Rate per 1,000, white, 19.5; colored, 26.0.

THE following reports, for the week ending December 13, are from places requiring burial permits, and having less than 5,000 population:

Bridgewater, Mass., population 3,390; no deaths. Brunswick, Ga., 3,000; one death, under 5 years. Edgarton, Mass., 1,700; two deaths. Franklin, Ind., 4,000; no deaths. Murfreesboro, Tenn., 4,000; no deaths. Total population, 16,600; total deaths, 3; under 5 years, 1; rate per 1,000, 9.3.

THE following reports, for the week ending December 13, are from places in which burial permits are not required:

Allegheny, Pa., population, 75,000; deaths, 11; under 5 years, 5; diarrhœa 1, diphtheria 1, scarlet fever 1, whooping cough 1. Bath-

Me., 10,000; deaths, 5; under 5 years, 1; consumption 1, diphtheria 1, pneumonia 1, typhoid fever 1. Battle Creek, Mich., 7,500; 1 death. Calais, Me., 7,000; deaths, 2; consumption 1. Columbus, Ga., 10,000; deaths, 3; typhoid fever 1. Dallas, Tex., 20,000; deaths, 3; typhoid fever 1. Davenport, Iowa, 25,000; deaths, 5; under 5 years, 2; consumption 1, diarrhœa 2, pneumonia 1, puerperal fever 1. Fayette, Miss., 200; no deaths. Helena, Mont., 3,500; no deaths. Louisiana, Mo., 5,000; consumption 1, pneumonia 1. Madison, Ind., 12,000; lung diseases 3. Mansfield, Ohio, 11,000; deaths, 1; cerebro-spinal fever 1, diphtheria 1. Mount Pleasant, Iowa, 5,000; no deaths. Niles, Mich., 1,600; malarial fever 1. Painesville, Ohio, 5,000; malarial fever 1, pneumonia 1, typhoid fever 1. Ripley, Miss., 1,000; no deaths. Shelbyville, Tenn., 2,000; one death. Tuskahossee, Ala., 4,000; deaths, 3; under 5 years, 2; pneumonia 2. Waterbury, Conn., 16,000; deaths, 11; under 5 years, 1; consumption 1, scarlet fever 1. Winona, Minn., 11,780; deaths, 2; consumption 1. Youngstown, Ohio, 17,000; deaths, 1; consumption 2. Total population, 252,716; total deaths, 67; under 5 years, 11.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Vancouver's Island.	Victoria	5,000	1879.									
Canada	Montreal	135,000	Dec. 6	4	26.0							46.0
Do	Kingston	16,000	Dec. 13	62	23.9							28.7
Do	St. John's	5,000	Dec. 13	4	20.8							29.0
Do	Charlottetown	12,000	Dec. 20	1	10.4							23.0
New Brunswick	St. John	16,000	Dec. 6	13	6.8							22.6
Do	do	16,000	Dec. 13	16	11.7							31.6
Cuba	Havana	195,437	Nov. 22	125	33.4							25.0
Do	do	195,437	Nov. 29	126	33.6							25.0
Do	do	195,437	Dec. 6	110	29.1							24.0
Do	Cienfuegos	20,218	Dec. 4	16	10.7							27.5
Do	do	20,218	Dec. 11	11	28.3							27.0
Do	do	20,218	Dec. 18	12	10.0							27.0
Haiti	Amy Cayes	8,000	Nov. 19	6	29.1							27.0
Do	do	8,000	Nov. 26	4	13.0							27.0
Guadaloupe	Pointe à Pitre	22,919	Nov. 22	5	14.1							23.7
Brazil	Santos	11,000	Nov. 8	1	37.0							29.0
Do	do	11,000	Nov. 22	10	104.3							29.4
Ireland	Queenstown	10,000	Dec. 6	5	26.5							
Scotland	Leith	57,000	Dec. 6	18	16.3							27.5
England	Liverpool	513,315	Nov. 29	295	28.4							30.1
Do	Bristol	210,000	Nov. 29	111	25.2							
Do	Sheffield	297,138	Nov. 22	133	23.1							
Do	Newcastle-on-Tyne	146,918	Dec. 6	81	28.7							24.5
France	Havre	32,000	Nov. 29	8	23.3							29.9
Do	Paris	1,188,806	Dec. 6	935	24.0							29.0
Do	Lyons	312,115	Nov. 29	139	21.1							15.5
Switzerland	Zurich	22,000	Nov. 29	3	7.1							
Holland	Amsterdam	308,952	Nov. 29	162	27.9							34.0
Saxony	Chemnitz	250,000	Nov. 22	49	11.1							17.4
Do	Leipzig	115,719	Dec. 6	65	23.2							43.2
Belgium	Brussels	399,182	Dec. 6	130	23.7							43.2
Do	Antwerp	169,951	Nov. 29	2	25.1							43.2
Do	do	169,951	Dec. 6	4	23.3							37.8
Germany	Frankfort	126,000	Nov. 22	(?)	1							41.7
Do	do	126,000	Nov. 29	(?)	3							39.7
Do	Bremen	165,000	Nov. 15	19	19.3							39.7
Do	Berlin	1,062,500	Nov. 29	474	19.3							35.1
Do	Breslau	270,000	Nov. 22	100	19.3							33.0
Do	Stuttgart	105,855	Nov. 29	30	11.8							11.9
Do	Mannheim	48,000	Dec. 6	17	18.7							13.0
Italy	Leghorn	97,800	Dec. 6	4	16.1							13.0
Austria	Trie-st	127,573	Nov. 22	26	31.0							
Do	Vienna	735,255	Nov. 15	306	23.7							29.5
Russian Poland	Warsaw	336,703	Nov. 22	160	21.3							29.5
Sweden	Stockholm	169,423	Nov. 22	29	18.1							36.9
Norway	Christiania	113,080	Nov. 22	49	18.0							63.1
Spain	Gibraltar	19,000	Nov. 8	7	19.2							63.1
Do	do	19,000	Nov. 15	12	32.9							63.1
Do	do	19,000	Nov. 22	6	16.1							63.1
Do	Barcelona	300,000	Nov. 15	163	28.7							60.6
Do	do	300,000	Nov. 29	191	33.7							
Portugal	Lisbon	200,000	Nov. 15	118	30.8							
Morocco	Casablanca	6,500	Nov. 22	1	15.4							
Do	do	6,500	Nov. 22	1	15.4							
Barbary	Tripoli	20,000	Nov. 29	47	96.1							63.0
Cape Colony	Cape Town	35,000	Nov. 18	22	25.8							63.0
Manitritia	Port Louis	64,710	Oct. 19	19	29.1							73.2
Do	do	64,710	Nov. 2	19	29.1							73.2
Do	do	64,710	Nov. 9	11	36.6							
Seychelles Islands	Mahé	8,931	Sept. 20	6	35.0							
Do	do	8,931	Sept. 27	4	17.5							
Do	do	8,931	Oct. 1	1	21.3							
Do	do	8,931	Oct. 11	6	35.0							

* The reports from Berlin are for the hospitals only.

ABSTRACTS FROM CONSULAR REPORTS.

BATAVIA, JAVA.—United States Consul O. Hatfield, under date of November 1, reports the city and island free from contagious or infectious diseases, and states that clean bills of health are regularly granted.

SABANILLA, UNITED STATES OF COLUMBIA.—United States Consul E. P. Pellet, under date of November 22, states that two more cases of yellow fever have occurred at Baranquilla, making seven in all. The victims have all been persons lately arrived, and every case has proved fatal.

ISLANDS OF MALTA AND GOZO.—The consular report for the first two weeks of November gives a total of 166 deaths in a population of 153,500, the annual rate of mortality being 28.2 per 1,000. Four deaths were from typhoid fever and one from diphtheria. No epidemic disease exists and the sanitary condition is considered very good.

MOSCOW, RUSSIA.—United States Consul R. P. Wilson reports, for the month of August, 3 deaths from small-pox, 11 from typhoid fever, and 123 from other contagious or infectious diseases; also, chronic lung diseases, 195; acute lung diseases, 153; and diarrheal diseases, 385. The total number of deaths (1,837 for July) is not given for August. The population is estimated at 601,967.

MAZATLAN, MEXICO.—United States Consul E. G. Kelton reports 74 deaths for the month of October, in a population of 11,000, giving an annual rate of 43.1 per 1,000. Malarial fevers and diarrheal diseases are the chief causes of mortality. No contagious disease is reported, and the sanitary condition of the town is rated as "good," though the death-rate is at least three times that of most cities in temperate climates.

BUENOS AYRES.—November 21, United States Consul E. L. Baker reports a fatal case of yellow fever, November 19, as the first appearance of the disease in that city since the terrible epidemic of 1871-72. The recent case was brought from Rio de Janeiro on the French steamship *Ciranda*; but the disease was not developed until after the arrival of the vessel at Buenos Ayres. Quarantine and other precautionary measures were adopted, and no epidemic is anticipated.

CURAÇAO, WEST INDIES.—Under date of October 2, United States Consul W. H. Faxon writes as follows:

I have applied to the authorities for data to fill the weekly reports, but could obtain none, as the reports of mortality are made only at the close of the year. With regard to the bills of health and the inspection of vessels, it is impossible for any one not an expert to comply with the instructions of the State Department.

JAPAN.—The Department of State forwards to the National Board of Health a report from Hon. J. A. Bingham, giving the official statistics of cholera in Japan to November 8. Reports are given from forty cities and districts, including an aggregate population of 31,659,065. Since April 22 the number of cases was 163,246, including the army and navy, so that 1.36 per cent. of the population were attacked. The number of deaths was 24,818, being 7.8 per cent. of the number of cases. This mean rate of mortality was greatly exceeded in some places, rising to 77.6 in Osaka, and to 84.3 among the troops at Kanazawa garrison. The average mortality in thirteen garrisons was 6.2 per cent. of the cases, and in four naval stations it was 50 per cent. The full report is printed in the *Tokio Times*, November 17.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

KANSAS CITY, MO., December 19.—Dr. J. Wilson, health officer, states that a board of health is established this year, for the first time, in this city of 60,000 inhabitants, and sends a copy of the ordinance approved August 1. Burial permits are required, and regular reports of all vital statistics enjoined upon physicians and others.

WHEELING, W. VA.,—Dr. T. O. Edwards reports, for the two weeks ending November 29, a total of 21 deaths, 10 of which were under 5 years. Diphtheria has prevailed in the city for some time, and 11 of the deaths above noted were caused by that disease. Of the other fatal cases, 2 were of diarrhoea, 2 of typhoid fever, 1 of consumption, and 1 of pneumonia. Taking the population at 30,000, as in the report, the annual death-rate was 18.2 per 1,000.

CINCINNATI, OHIO.—Dr. T. C. Minor, health officer, writes as follows, December 24, regarding infected articles of commerce:

I desire to call attention to the fact that large quantities of rags, gathered during the summer, are now being shipped to Saint Louis, Louisville, Cincinnati, and Eastern cities. There is every reason to believe that some of these rags are infected, and liable to cause disease next summer if stored until that time. At this place, dealers were compelled to certify under oath that rags in their possession were imported before the outbreak of yellow fever last year, and on the approach of warm weather were obliged to send their stock to the paper mills. The shipment of rags and of second-hand clothing from Montreal is evidently dangerous to cities of the United States during the prevalence of small-pox in Canada.

BALTIMORE, MD.—Under date of December 18, Dr. E. Lloyd Howard, quarantine physician of the port of Baltimore, writes as follows concerning a case of small-pox supposed to have been contracted in Georgetown, D. C. The disease was reported in the District of Columbia and in Philadelphia during the week ending December 6:

Our papers of December 16 contained a statement, taken from a Northern paper, that the schooner *C. C. Lane* had sent one of her seamen to the hospital at New London, Conn., and had sailed for this port December 13, and that the case sent to hospital had proved one of small-pox. On the arrival of the schooner yesterday, the captain made the following statement: "The seaman, Francis —, spent Thanksgiving day, November 27, on shore at Georgetown, D. C., and sailed the next day on the *C. C. Lane*, arriving at New London, December 7. The next day the man was taken sick, and sent to the hospital December 9; the schooner sailed for Baltimore December 13." If this man has or had small-pox, the period of incubation points to Georgetown, D. C., as the place where it was contracted. The vessel will be kept under observation till after the usual period of incubation has passed; in the meantime some investigation of the disease in Georgetown is desirable.

ATTICA, WYOMING COUNTY, NEW YORK.—December 17, Dr. Julius A. Post, secretary of the county medical society, writes as follows:

In this county the country is hilly, with a heavy clay sub-soil. It is the highest point between New York City and Buffalo, on the Erie Railroad. Most of the people are engaged in dairy-farming, and live in villages. Attica has a population of about three thousand. There are ten villages, ranging from one to three thousand, and a number of smaller ones of one hundred to five hundred inhabitants. We have no board of health, and no vital statistics of any kind are on record in the county. Our medical society has twenty-nine active members. As the State of New York has no board of health, we contemplate asking our board of supervisors to organize one for this county, under the auspices of our local medical society. Our soil and climate are very unfavorable to consumptives, and acute diseases of the lungs are often met with. During the past ten years typhoid fever, diphtheria, scarlet fever, and small-pox have each at times claimed many victims in our county.

MISCELLANEOUS.

ELIZABETH, N. J.—For the month ending November 15, 28 deaths are reported in this city of 28,000 inhabitants, being at the annual rate of 12 per 1,000. The causes of death are not specified.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of five cents per copy. Notice of at least one week should be given when a large number is required.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortuary reports.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JANUARY 3, 1880.

[No. 27.]

WORK OF STATE BOARDS OF HEALTH.

At the close of the year 1879, seventeen State boards of health are actively in operation, while three others, which have the advantage of statutes favorable to their great usefulness, have no pecuniary support and consequently are utterly crippled in the good work that was projected by their founders. Two other States, namely, Arkansas and North Carolina, have encouraged the medical profession to make a provisional organization in anticipation of sanitary service and protective measures that were liable to be called for during the past season. Arkansas and North Carolina have a basis of organization authorized by statutes constituting the State Medical Association the board of health for the State. The practical results of the methods of State service which are now being organized in the two States last mentioned are looked for with much interest, for in these instances the medical profession seems to have evinced remarkable unanimity in regard to the duty of organizing the service of hygiene and vital statistics for the people. In Arkansas, the governor and his council expressed their estimation of the necessity of a central sanitary board by imposing upon the organized medical profession the service which should—as it probably soon will—be provided for by statute. Thus far the legislation which has created the twenty-one State boards that now have something like a permanent character, and which has defined their powers, has been very unpretending and more permissive than mandatory. The gentlemen who became members seem to have had no desire for large powers. They have sought no emoluments, for, from the organization of the first board, in 1869, until now, no pay or emoluments have been offered or sought by the members of these boards—the secretary, when a member, being the only one in the board who ever receives compensation. Dr. Bowditch, the veteran president of the Massachusetts board, said, in his centennial discourse, at Philadelphia: “The members of the board should never be paid. The secretary should be paid *well*, and devote his whole energies to the objects in view. The qualification required on the part of those who accept office is rarely found—single-hearted love for the objects to be attained.” The fact is noteworthy that in the nineteen States in which the governors and senates have appointed the heads of these central departments or boards of health the recognized excellence of the men and their ability and success have given general satisfaction.

The first sanitary survey of a State was that which Lemuel Shattuck, esq., of Massachusetts, projected, and

under the authority of the legislature conferred on him and two associates, completed in the year 1851; and in the series of conclusions and recommendations which accompanied the final report of that survey, when submitted to the State authorities, it was cogently suggested that a State board of health should be established and have a general supervision of sanitary interests of the commonwealth. Twenty years later the legislature of that State created such a board and endowed it with powers of inquiry and advice.

Right well did the Massachusetts board employ its apparently scanty powers, for in the first seven years of its service it investigated and carefully reported upon sixty-six different subjects of which the legislature took notice, and in consequence of these reports and labors the legislators enacted numerous important laws, and such enactments and amendments related to ten or more different matters. The objects of that pioneer of State boards remain unchanged, but its powers have been variously and greatly enlarged. Fortunately for the other States, the Massachusetts board had been prolific and judicious in its investigations and reforms. Other States have profited by the example. The chief objects of that board have been first in order in the organization of each successive one in the different States, and one of the last great objects of practical improvement undertaken by the Massachusetts board, namely, that of securing a correct registration of vital statistics, has become incorporated in the organic law and plan of each of the later boards. California, Virginia, Michigan, and Minnesota, which next succeeded Massachusetts in creating State boards of health, assigned to those respective boards the supervision and the designation of forms, &c., of the returns and registration of deaths, births, and marriages. In the annexed schedule the chief objects which have thus far been designated in the organic and supplementary acts of legislatures as duties of the several State boards of health are concisely stated. The Virginia board, the third in the order of date of creation, though supported by no appropriation by the legislature, was as fully instructed concerning its various duties as any of the more favored boards. The chief of these objects for which that board was organized were mentioned in the law as follows—and they define the leading duties of all the boards:

1. “To take cognizance of the interests of health and life among the citizens generally.
2. “To place themselves in communication with local boards of health, the hospitals, asylums, and public institutions throughout the State.
3. “To make sanitary investigations and inquiries re-

specting the causes of disease, especially of epidemics and endemics, and the sources of mortality, the effects of localities, employments, conditions, and circumstances on the public health.

4. "To gather such information in respect to these matters as they may deem proper for diffusion among the people.

5. "To devise some scheme whereby medical and vital statistics of sanitary value may be obtained.

6. "To perform the duties of an advisory board to the State in all matters, &c., and at each annual session of the legislature to make a report of their doings, investigations, and discoveries."

Several of the later organized State boards are required by law, as in Connecticut and Rhode Island, "to have the general supervision of the State system of registration of births, marriages, and deaths," and "from time to time engage suitable persons to render sanitary service, and to make or supervise practical investigations and examinations requiring expert skill," and "to cause all proper sanitary information in its possession to be promptly forwarded to the local health authorities," &c. In each of the States there has been some slight variation of the terms directing the board's duties, according to special wants or interests of the people. The practical operation of the laws by which the boards have been created and brought into activity will appear as we examine the results and methods of each board's work. Such an examination will follow this scheduled arrangement of the matters that are here mentioned for the purpose of reference and comparison concerning them.

SMALL-POX IN THE DISTRICT OF COLUMBIA.

Dr. Charles Smart, of the United States Army, having been directed by the National Board of Health to investigate the recent outbreak of small-pox in this District, submitted the following report December 27, 1879. The estimates submitted by the health officer of the District, with a request for aid from the board, have been approved, and very vigorous means are now being taken to stamp out the disease.

Attention is especially invited to the fact that it has not been possible to trace the origin of the first case.

In the report by Dr. Cummings on the yellow fever in Forest City, to be given in the next number of the BULLETIN, it will be noted that a similar obscurity rests over the origin of the first case of the yellow fever in that city.

It would be a grave error to conclude that in these cases either the small pox or the yellow fever had arisen spontaneously from some mysterious concentration of fifth and atmospheric conditions; yet all arguments in favor of such a mode of origin of yellow fever rest upon such negative evidence as this.

The disease prevailed epidemically in the District in 1873, but since that time there has occurred only an occasional case, isolation during its treatment and thorough disinfection at its termination having prevented the spread of the pest.

At the present time its first appearance was on November 25, in the person of a colored man named Jesse Williams, who was under treatment for consumption in the Providence Hospital. This man had been an inmate of that institution for six months previous to his attack, and before his admission he was a resident of a healthy country district in Virginia. On the 20th he was removed from the Providence Hospital to the small-pox hospital, where he died on the 6th of December. He had never been vaccinated.

No other case occurred until the 15th of this month, when a colored boy, a prisoner in the United States jail for the past eight months, was reported as showing symptoms of the disease. The case was immediately verified and the patient removed to the small-pox hospital.

Next day three cases were reported to the health officer, all of them in the southeast division of the city. On the 20th two cases were removed from the jail, and on the following day one from the southeast portion of the city. On the 23d a child was removed to the hospital from the Washington Asylum, and on the same day a colored man was brought in from Severn street northwest, who had been discharged from jail five days before. Two more cases had been discharged from jail five days before. Two more cases occurred in the southeast division on the 24th. On the 26th another child was taken from the asylum. One child died this morning in the hospital. These make to date thirteen cases and two deaths.

Of the 13 cases 5 are isolated in their homes, while 8 were removed to the hospital. Two cases having died, there remain at present 6 in hospital under treatment.

Nothing can be learned as to the introduction of the virulent poison into the city. The first fact met with in the investigation is the occurrence of the disease in the Providence Hospital. Some rumors to the effect that previous cases had occurred are unfounded. One that a child had suffered from the disease in a hotel in the northwestern division was disproved by the physician in attendance. Another that a case had occurred in Georgetown was found on inquiry to have originated in a report that a man belonging to a New London vessel which touched at Georgetown was landed at the former port affected with the disease.

But after the first case the progress of the visitation appears manifest. It would seem clear, also, that all the subsequent cases above recorded originated from the contagion of that first case. Jesse Williams was taken to the small-pox hospital on the 20th of November, where he died on the 6th of December. During those seven days intercourse between the hospital on the one hand and the jail and asylum on the other must have disseminated the poison; and from the latter institutions its spread to neighboring parts of the southeast division can be more readily accepted as in accordance with the known contagion of the disease than the simultaneous occurrence of several *variolous* foci.

When the relative positions of these institutions are considered, the small-pox hospital on the bank of the East Branch, and the jail and asylum on a line three hundred yards west of the one to the others, admit suggests the idea of contagion from the one to the others. And when the known period of incubation is considered in connection with the date of Williams's stay in hospital and that of the outbreak in the jail and asylum, it would seem unnecessary to prove intercourse between the institutions to account for the spread of the disease. Rather should the occurrence of the cases in the jail be viewed as proving the intercourse. There are nearly seven hundred people inmates of the jail and almshouse, many of whom are free to come and go, so that communication with the hospital, which for some time back has been a small-pox hospital in name only, is a likely supposition. It might occur without casting any reflection on the hospital management, as it is difficult without military discipline to control the movements of so many people. But in the present instance the hospital is without officers.

It has been objected to this that in 1873, when the hospital was crowded with cases, the disease did not extend to the jail. But the circumstances were different then. The hospital at that time was built as a pest-house and occupied as such, and the fact of its occupation was so well known in the neighborhood as to cause it and all connected with it to be avoided.

Communication between the jail and almshouse and those parts of the southeast division where cases have since occurred appears as likely as between the adjacent institutions. The distance is greater, but the restrictions on intercourse are less. Moreover, all these cases are recorded as occurring at a period which would date their exposure back to the time of Williams's stay in hospital. This fact has a practical bearing, important as indicating the necessity for prompt and energetic measures. If these twelve cases are, as they seem to be, the issue of the first case, the "epidemic tendency" is strong; and the series of cases to be developed from them, which will begin to appear in the course of a few days, dating their incubatory period from on or after the 15th instant, will be proportionately large.

The action taken by Dr. Townshend, health officer of the District, in view of these circumstances, has been to isolate each case as it was reported, either in the house in which it occurred or by removal to hospital. In the former instances a warning flag has been displayed on the premises and the relatives of the patient cautioned against holding communication with outsiders. Where the house did not afford facilities for isolation, and where doubt existed as to the intelligence of the relatives or as to an honest compliance with the quarantine requirements, the patient was conveyed to hospital. After the removal of the patient, with the contaminated clothes and bedding, the rooms were disinfected with sulphur, while those persons who had been exposed to the contagion were vaccinated. Time enough has been spared to show the efficiency of this treatment in the case of the Providence Hospital. No case has occurred in that institution since the removal of Williams.

Dr. Townshend has communicated with certain vaccine-supply houses, and for the past few days has been in receipt of about five hundred points daily.

He has at his command for the small-pox service a hospital capable of accommodating about twenty patients. As to eligibility of site, enough has been said above; but it is unlikely that further injury will be effected by its unfortunate proximity to the jail and almshouse.

house. The conditions of 1873 now obtain; that is, the hospital is well recognized by the people as a pest-house, and it is improbable that the quarantine rules will hereafter be broken.

The hospital accommodation, while sufficient for the present needs of the District, may prove inadequate during the course of the coming month. In this event it would appear preferable to increase the establishment on the present site rather than duplicate it in another locality. But as there is no house adjacent to the hospital which could be used to increase the accommodation, and as building is a work requiring time, I would suggest that, if rendered needful by the progress of events, the extension be obtained by pitching pavilions of hospital canvas on a raised board floor and framework.

The hospital has no medical officer; voluntary service on the part of the physician in charge of the almshouse has cared for the small-pox cases to this date.

The ambulance wagon used up to this time is one which had been in the small-pox service during the last epidemic. It was hastily repaired for the emergency until other arrangements should be perfected for the transportation of the sick. The horse and driver were taken from other duties in the District to meet the necessities of the outbreak. The local authorities have no suitable accommodation near the hospital for an ambulance station; but at a short distance north of the hospital there is an isolated private house which could be rented for that purpose; it was so used during the last epidemic.

The health officer has no medical men on special duty as vaccinating physicians. The city is divided into twelve sanitary districts, each of which has a medical officer on a small salary as physician to the poor. These gentlemen, familiar as they are with the city, could accomplish the work of vaccination and re-vaccination by visits from house to house more rapidly and thoroughly than any special organization.

Report of mortality in cities of the United States for the week ending December 20, 1879.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrhœal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Me... Bangor	20,000	1	5	13.0		2												
N. H... Concord	11,000	1	5	23.8														
Mass... Boston	355,000	54	144	29.0		32	2	11		17				1		2		
Cambridge	69,000	6	22	32.9		6	1	3		3						1		
New Bedford	17,000	6	14	26.0		1		1		1						1		
Marblehead	7,500	1	5	26.8	1													
Fall River	18,500	12	15	27.9		1			1									
Lowell	52,000	11	22	32.0		5		1		2								
Lawrence	10,000	1	6	7.8		1		1		1								
Brookline	12,000		4	1.3		1												
Somerville	23,000	3	8	18.1		1		2		1								
R. I... Providence	101,500	11	15	23.1		3		3		5				15		2		
Conn... New Haven	60,000	9	15	13.0		1		1		1		1				1		
Norwich	17,000	3	11	33.7		1				2						1		
Vt... Burlington	16,500	2	3	9.2						1								
N. Y... New York	1,067,563	191	469	23.7	2	100	9	19	2	111	1	29	5	10		1		
Brooklyn	561,418	85	209	19.3		34	28	3	33	2	2			1	3		1	
Yonkers	19,000	3	5	13.7		1				1								
Poughkeepsie	20,000	2	9	24.5		3			1									
Newburgh	17,568	3	12	35.6		3		1	1	2								
Hudson	8,784																	
Sing Sing	5,000	2	9	36.9		3		1										
Binghamton	18,000	3	8	7.7								1	1					
Penn... Philadelphia	291,340	26	261	14.3		15				1						1	6	
Erie	30,000	1	6	10.1		1				2								
Pittsburgh	115,000	23	16	10.1				2		11				2				
Del... Wilmington	41,000	7	17	29.1		5				1						1		
Md... Baltimore	400,000	62	102	20.2		33		17		9				14		1		
District of Columbia*	170,000	32	40	23.5		11	1			17				1	3	1		
Va... Norfolk	24,000	3	9	19.5		2												
Richmond*	80,000	4	26	16.9		8				1	3							
Ga... Augusta	28,771	3	8	15.5										1				
Atlanta*	41,518	3	9	11.3		2												
Fla... Jacksonville	10,000	1	2	10.1		1					1							
Miss... Vicksburg	15,000	1	7	24.3		2	1			2								
Columbus	5,300																	
La... New Orleans	210,000	15	111	27.6		9	7	1		8	2					3		
Tenn... Nashville	25,085	5	17	32.7		1	2	1		1	1							
Chattanooga	12,000	1	1	17.4													1	
Ky... Louisville	175,000	17	51	15.2		14	2	1		1				3				
W. Va... Wheeling	35,000	7	19	28.3		3		7		1								
Ohio... Cincinnati	280,000	28	99	18.4		21		5		1						6		
Cleveland	175,000	28	60	17.9		4	1			1					4		1	
Dayton	39,000	2	1	5.9		1		1		1								
Gallopis	5,500		2	1.9		2												
Mich... Port Huron	8,190	1	3	19.1														
Ind... Evansville	37,500	9	18	25.0														
Indianapolis	115,000	15	36	19.3				4		6	3							
Ill... Chicago	517,621	18	18	11.2		10		18	2	21	1	2	2	11	11	3		
Peoria	40,000	5	11	18.2					2	2								
Quincy	45,000	5	13	19.1		3				3	1							
Ypsora	11,000		7	7.2						2								
Wis... Milwaukee	121,000	15	37	11.3		4		1		2								
Minn... Minneapolis	52,000	10	15	15.0				2		5								
Iowa... Burlington	20,000		1	1.7														
Dubuque	30,000	1	6	10.1		2			1								1	
Koskuk	15,000	1	1	13.9		1									3			
Mo... Saint Louis	500,000	45	119	12.4	2	17	3	1		15	1					3		
Kansas City	61,000		1	3.4					1	1								
Neb... Omaha	30,000	1	2	8.7		1				1								
Utah... Salt Lake City	60,000	6	10	20.8		1	1	7										
Cal... San Francisco	300,000	19	79	13.7		14	6	1		14					1			
Sacramento	25,000	1	4	8.3						2								
Totals	7,142,911	394	2,619	18.2	5	136	11	189	10	348	21	90	11	90	1	18	16	

* District of Columbia has 114,000 white, 56,000 colored; deaths, 14 white, 32 colored. Rate per 1,000 white, 21.9; colored, 29.8. Norfolk has 110,000 white, 9,913 colored; deaths, 1 white, 5 colored. Rate per 1,000 white, 11.1; colored, 30.3. Augusta has 15,216 white, 11,652 colored; deaths, 3 white, 5 colored. Rate per 1,000 white, 10.2; colored, 22.4. Atlanta has 25,371 white, 16,175 colored; deaths, none white, 9 colored. Rate per 1,000 white, 9.4; colored, 29.0. New Orleans has 155,000 white, 55,000 colored; deaths, 7 white, 33 colored. Rate per 1,000 white, 26.2; colored, 31.3. Nashville has 17,885 white, 9,500 colored; deaths, 8 white, 9 colored. Rate per 1,000 white, 21.7; colored, 29.1. Chattanooga has 8,000 white, 4,000 colored; deaths, 2 white, 2 colored. Rate per 1,000 white, 13.0; colored, 26.0.

THE following reports, for the week ending December 20, are from places requiring burial permits, and having less than 5,000 population:

Bridgewater, Mass., population 3,500; croup, 1; under 5 years. Brunswick, Ga., 3,000; deaths, 2; under 5 years, 1; consumption, 1. Edgartown, Mass., 1,700; 1 death. Murfreesboro', Tenn., 4,000; no deaths.

Total population, 12,600; total deaths, 4; under 5 years, 2. Rate per 1,000, 16.5.

THE following reports, for the week ending December 20, are from places in which burial permits are not required:

Allegheny, Pa., population 75,000; deaths, 17; under 5 years, 8; con-

sumption, 2; diphtheria, 3; erysipelas, 1; pneumonia, 1; typhoid fever, 1. Bath, Me., 10,000; pneumonia, 1. Battle Creek, Mich., 7,500; deaths, 2; diarrhoea, 1. Bay City, Mich., 19,500; deaths, 4; under 5 years, 1; diphtheria, 1. Calais, Me., 7,000; deaths, 2; under 5 years, 1; erysipelas, 1; pneumonia, 1. Carrollton, Miss., 600; no deaths. Decatur, Miss., 1,000; no deaths. Fayette, Miss., 500; no deaths. Helena, Mont., 3,500; no deaths. Madison, Ind., 12,000; deaths, 4; under 5 years, 2; consumption, 2. Mansfield, Ohio, 11,000; 1 death; under 5 years, 1. Mount Pleasant, Iowa, 5,000; no deaths. Niles, Mich., 4,630; scarlet fever, 1; under 5 years, 1. Paducah, Ky., 10,000; no deaths. Painesville, Ohio, 5,000; deaths, 2; cerebro-spinal fever, 1. Ripley, Miss., 1,000; no deaths. Shelbyville, Tenn., 2,000; no deaths. Starkville, Miss., 1,163; no deaths. Winona, Minn., 11,786; deaths, 4; under 5 years, 2; consumption, 1. Youngstown, Ohio, 17,000; deaths, 3; under 5 years, 2; scarlet fever, 1; pneumonia 1.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Weeks ending—	Total deaths.	Annual rate per 1,000.	Cholera.	Yellow fever.	Shall-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Yancouver's Island.	Victoria.	5,000	Dec. 13	2	30.4	..	..	..	..	..	..	44.0
Canada.	Kingston.	16,000	Dec. 20	11	15.6	..	..	..	..	..	..	12.1
Do.	Charlottetown.	12,000	Dec. 20	..	..	..	..	..	..	..	..	17.5
Bermuda.	Hamilton.	14,807	Dec. 16	2	7.0	..	..	..	..	..	..	72.4
Do.	do.	11,867	Dec. 13	..	..	..	..	..	..	..	..	65.5
Cuba.	Havana.	195,437	Dec. 13	109	29.1	..	..	2	1	..	..	73.0
Do.	do.	195,437	Dec. 20	121	31.1	..	..	3	12	..	..	75.0
Mexico.	Matamoros.	16,000	Nov. 22	22	26.0	..	..	..	..	..	..	62.6
Do.	do.	16,000	Nov. 29	22	26.0	..	..	..	..	..	..	62.6
Do.	do.	16,000	Dec. 6	7	26.0	..	..	1	..	..	..	65.3
Do.	do.	16,000	Dec. 13	7	26.0	..	..	1	..	..	..	63.0
Do.	Merida and Progreso.	61,500	Dec. 15	79	70.0	..	..	..	..	..	..	..
Spain.	Batna.	133,000	Nov. 8	59	23.1	..	..	6	12	..	..	..
Do.	do.	133,000	Nov. 15	62	24.3	..	..	..	12	..	..	..
Do.	do.	133,000	Nov. 22	73	28.6	..	..	1	..	1	..	..
Do.	do.	133,000	Nov. 29	67	26.2	..	..	3	..	..	..	..
Do.	Pernambuco.	126,555	Nov. 8	73	30.9	..	..	..	..	..	..	..
Do.	do.	126,555	Nov. 15	68	29.3	..	..	..	..	..	..	..
Do.	do.	126,555	Nov. 22	48	19.7	..	..	13	1	..	..	..
Do.	do.	126,555	Nov. 30	73	30.0	..	..	10	..	..	..	..
Do.	do.	126,555	Dec. 7	55	22.6	..	..	12	..	..	..	..
Do.	Rio Grande do Sul.	15,000	Nov. 16	..	..	..	..	..	..	..	..	75.0
St. Helena.	Jamestown.	6,240	Nov. 8	..	..	..	..	..	..	..	..	..
Do.	do.	6,240	Nov. 15	..	..	..	..	..	..	..	..	..
Do.	do.	6,240	Nov. 22	4	14.2	..	..	..	..	..	..	..
Do.	do.	6,240	Nov. 29	..	..	..	..	..	..	..	..	..
Tenafide.	Santa Cruz.	16,640	Nov. 22	10	31.1	..	..	1	..	1	..	35.6
Do.	do.	16,640	Nov. 29	16	50.2	..	..	..	..	..	..	35.6
Do.	do.	16,640	Dec. 6	7	25.1	..	..	..	..	..	..	35.9
Ireland.	Queenstown.	10,000	Dec. 13	1	36.5	..	..	..	..	..	..	..
Do.	Belfast.	212,000	Dec. 6	36	7.0	..	..	..	..	..	..	11
Do.	do.	212,000	Dec. 13	123	30.2	..	..	..	..	..	..	30.9
Scotland.	Glasgow.	575,136	Dec. 6	282	25.4	..	..	..	..	..	..	13
Do.	Dundee.	150,925	Dec. 6	54	18.0	..	..	..	..	..	..	28.8
England.	Newcastle on Tyne.	146,948	Dec. 13	72	25.9	..	..	..	..	..	..	24.8
Do.	London.	3,420,808	Dec. 6	888	27.1	..	..	..	..	..	..	27.1
France.	Paris.	1,988,806	Dec. 1	1,011	25.3	..	..	..	..	..	..	31.2
Do.	do.	1,988,806	Dec. 8	144	23.4	..	..	..	..	..	..	..
Do.	Lyons.	512,815	Nov. 22	154	23.4	..	..	..	..	..	..	41.0
Do.	do.	512,815	Dec. 6	117	22.3	..	..	..	..	..	..	53.6
Switzerland.	Zurich.	138,465	Dec. 6	8	14.2	..	..	..	..	..	..	..
Holland.	Rotterdam.	117,000	Dec. 6	96	31.1	..	..	..	..	..	..	..
Do.	do.	117,000	Dec. 13	101	35.8	..	..	2	..	1	..	35
Do.	Amsterdam.	308,352	Dec. 15	172	29.0	..	..	..	..	..	..	26.0
Saxony.	Dresden.	215,440	Nov. 29	80	19.3	..	..	..	..	..	..	28.0
Do.	Chebnitz.	29,000	Nov. 29	44	25.9	..	..	..	..	..	..	24.5
Do.	Leipsic.	115,719	Dec. 13	92	32.9	..	..	..	..	..	..	19
Germany.	Breslau.	270,000	Nov. 29	120	23.1	..	..	..	..	..	..	17
Do.	Stuttgart.	200,000	Nov. 29	110	25.0	..	..	..	..	..	..	30.0
Do.	do.	200,000	Nov. 29	52	30.1	..	..	..	..	..	..	24.8
Do.	Stuttgart.	105,820	Dec. 6	61	30.0	..	..	..	..	1	..	15
Do.	Bremen.	105,000	Nov. 22	42	20.8	..	..	..	..	..	..	35.5
Do.	Bremen.	105,000	Nov. 29	52	24.8	..	..	..	..	..	..	31.1
Denmark.	Copenhagen.	225,000	Dec. 2	131	35.0	..	..	13	2	..	..	10
Italy.	Naples.	1,566,611	Nov. 1	212	24.1	..	..	..	..	..	..	66.7
Do.	Venice.	111,218	Nov. 1	95	35.1	..	..	..	..	..	..	4
Do.	do.	111,218	Nov. 8	68	28.8	..	..	..	..	..	..	45.0
Do.	do.	111,218	Nov. 15	94	31.7	..	..	..	..	..	..	12
Do.	do.	111,218	Nov. 22	70	25.2	..	..	1	..	..	..	36.0
Do.	do.	111,218	Nov. 29	93	30.3	..	..	..	..	..	..	6
Russian Poland.	Warsaw.	346,700	Nov. 29	112	19.6	..	..	..	..	..	..	29.5
Sweden.	Stockholm.	109,429	Nov. 29	133	19.4	..	..	..	..	..	..	26.6
Norway.	Christiania.	113,000	Nov. 29	33	15.4	..	..	..	..	..	..	29.7
Spain.	Gibraltar.	19,000	Nov. 30	5	13.7	..	..	..	..	..	..	63.6
Do.	do.	19,000	Dec. 6	10	26.3	..	..	..	..	..	..	62.2
Cape Colony.	Cape Town.	35,000	Nov. 24	34	19.2	..	..	..	..	..	..	71.0

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JANUARY 10, 1880.

[No. 28.]

THE PROPOSED STATE BOARD OF HEALTH FOR NEW YORK.

Special attention is invited to the following plan for a board of health for the State of New York, which will be at once proposed to the legislature in the form of a bill, and which it is hoped may soon become a law. This plan has been prepared after extensive consultation with those most interested in the subject, and it embodies several points which are new in such legislation in this country. It has been largely because of the supposed difficulty of harmonizing the powers and interests of the boards of health of great cities with those of a State board of health that the States of New York, Ohio, and Pennsylvania are yet without State health organizations.

The manner in which this has been adjusted in the present plan seems to be eminently satisfactory, and the general principle upon which it is based, *i. e.*, giving the municipal health organization two forms of representation in the State board, one by permanent appointment, the other temporary, in matters specially interesting the municipality, is one upon which it is to be hoped that other States will act, and especially those which are as yet unprovided with boards of health.

It is certainly full time that the great State of New York should have some health organization. Upon the existence of properly constituted State boards like the one proposed, boards which shall be charged with the duty of collecting vital statistics; of making scientific investigations and sanitary surveys; of doing away with nuisances beyond the reach of municipality, such for instance as the pollution of its sources of water supply at a point beyond its jurisdiction, depends to a great extent the future of sanitary science in this country; and every sanitarian, every educated medical man, and every one who can look far enough beyond the present hour to see that public health organizations are destined soon to become an essential feature of all governments, will do what he can to secure the enactment of such a bill as this.

It is not meant that the bill is perfect in all its details; that cannot be asserted of any public health organization in existence; but the general principles of the bill are correct, and it is sincerely hoped that it may soon become a law and be put into practical operation.

AN ACT TO ESTABLISH A STATE BOARD OF HEALTH.

The people of the State of New York, represented in Senate and Assembly, do enact as follows: Within twenty days after the passage of this act the governor shall appoint, by and with the advice and consent of the senate, three State commissioners of health, two of whom shall be graduates of legally constituted medical colleges in the State, and of not less than seven years' practice of their profession. The said commissioners, together with the attorney-general, the State engineer, and

the health officer of the port of New York, who shall be *ex-officio* members of the State board of health, and three other persons, to be designated and appointed by the governor, one of whom shall be a commissioner of health of the board of health of the city of New York, and the others shall be commissioners of health of regularly constituted and organized boards of health of cities of the State, shall constitute "The Board of Health of the State of New York." Nothing in chapter 335 of laws of the State of New York, in the laws amending the same, or in the laws constituting boards of health in the various cities of the State shall be read or construed to prevent the appointment of the said commissioners of boards of health of cities also members of the board of health of the State of New York, and no appointment to an office or acceptance thereof under this law shall be held to vacate the office previously held in any board of health of any city in this State.

SEC. 2. The said three commissioners so appointed shall take the oath of office prescribed by the constitution for State officers and receive from the secretary of state certificates of their appointment. They shall hold office for three years, and whenever a vacancy occurs the place shall be filled as in other cases provided by law, and the other commissioners shall from time to time be designated by the governor as occasion may require or as their places may be vacated in the board by the expiration of their several terms of office.

SEC. 3. The State board of health shall meet at least once in every three months, and as much oftener as they shall deem necessary, their first meeting being held within two weeks after the appointment duly made of the members of the first board and after they shall have qualified as aforesaid, and each annual meeting to be held within two weeks after the first of May each year after the first, as herein provided. No member of the board except the secretary shall receive any compensation but the actual traveling and other expenses of the members, and officers of said board, while engaged in their duties, shall be allowed and paid out of the appropriation made for its support. They shall elect annually one member of the board to be president. They shall also elect, from among their own members or otherwise, a person of skill and experience in public health duties and sanitary science, to be the secretary and executive officer of said board, who shall have all the powers and privileges of a member of the board, except in regard to voting upon matters relating to his own office and duties as secretary, and he shall hold said office for the term of three years, but he may be removed for cause, after a full hearing by the board, a majority of the members voting therefor.

SEC. 4. The State board of health may adopt by-laws regulating the transaction of its business, and provide therein for the appointment of committees to whom it shall delegate authority and power for the work committed to them, and it may also adopt and use an organization of its members shall constitute a quorum for the transaction of business.

SEC. 5. The secretary shall keep a record of the acts and proceedings of the board, perform and superintend the work prescribed in this act, and such other duties as the board may order, and shall receive an annual salary of \$5,000, which shall be paid him in the same manner as the salaries of other State officers are paid, and such necessary expenses shall be allowed him as the comptroller shall audit on the presentation of an itemized account having vouchers annexed, together with the certificate of the board.

SEC. 6. Said board shall take cognizance of the interests of health and life among the people of the State; they shall make inquiries in respect to the causes of disease, and especially of epidemics, and investigate the sources of mortality, and the effects of localities,

employments, and other conditions upon the public health. It shall be the duty of said board to obtain, collect, and preserve such information relating to deaths, diseases, and health as may be useful in the discharge of its duties and contribute to the promotion of health or the security of life in the State of New York. And it shall be the duty of all health officers and boards of health in the State to communicate to said State board of health copies of all their reports and publications; also such sanitary information as may be useful.

SEC. 7. It shall be the duty of the State board of health to have the general supervision of the State system of registration of births, marriages, and deaths. Said board shall prepare the necessary methods and forms for obtaining and preserving such records, and to insure the faithful registration of the same in the several counties and in the central bureau of vital statistics at the capital of the State the said board of health shall recommend such forms and amendments of law as shall be deemed to be necessary for the thorough organization and efficiency of the registration of vital statistics throughout the State. The secretary of said board of health shall be the superintendent of registration of vital statistics of the State. As supervised by the said board the clerical duties and safe-keeping of the bureau of vital statistics thus created shall be provided for by the comptroller of the State, who shall also provide and furnish such apartments and stationery as said board shall require in the discharge of its duties.

SEC. 8. At any time the governor of the State may require the State board of health to examine into nuisances, or questions affecting the security of life and health in any locality; and in such case the said board shall have all necessary powers to make such examinations, and it shall report the results thereof to the governor within the limits of time which he shall prescribe for such examination and report.

The report of such examination, when approved by the governor, shall be filed in the office of the secretary of state; and the governor may, in relation to the matters or things found and certified by the State board of health to be nuisances, declare them to be public nuisances and order them to be changed as he shall direct, or abated and removed.

Any violation of such an order shall be held and punished as a misdemeanor; and thereafter the governor may by his order in writing certified under his official seal, directed to the officers of the county in which the said nuisance shall be situated, require the district attorney, the sheriff, and the other officers of every such county, to take all necessary measures to execute and to have obeyed the order of the governor.

SEC. 9. At any time at the request of the State board of health, or whenever the governor shall, as hereinbefore provided, have directed an examination and report to be made by the State board of health into any alleged nuisance, any board of health of any city of the State may appoint and select any one of its officers as its representative during such examination of any nuisance; and such representative officer shall have a seat at, and be entitled to take part in, all the deliberations of the State board of health, during such investigation, but without the right to vote.

SEC. 10. Said board may from time to time engage suitable persons to render sanitary service, and to make or supervise practical and scientific investigations and examinations requiring expert skill, and to prepare plans and report relative thereto; and it is hereby made the duty of all officers and agents having the control, charge, or custody of any public structure, work, ground or erection, or of any plan, description, outlines, drawings or charts thereof, or relating thereto, made, kept, or controlled under any public authority, to permit and facilitate the examination and inspection, and the making of copies of the same by any officer or person by said board authorized; and the members of said board, and such other officer or person as may at any time be by said board authorized, may without fee or hindrance, enter, examine, and survey all grounds, erections, vehicles, structures, apartments, buildings, and places; but no more than \$5,000 in any one year shall be expended for such special sanitary service.

SEC. 11. It shall be the duty of said board, on or before the first Monday of December, in each year, to make a report in writing to the governor of this State, upon the vital statistics and sanitary condi-

tion and prospects of the State; and such report shall set forth the action of said board and of its officers and agents and the names thereof, for the past year, and may contain other useful information, and shall suggest any further legislative action or precautions deemed proper for the better protection of life and health. And the annual report of said board shall also contain a detailed statement of the comptroller of all money paid out by or on account of said board, and a detailed statement of the manner of its expenditure during the year last past, but its total expenditures shall not exceed the sum of \$15,000 in any one year.

SEC. 12. The sum of \$15,000 is hereby appropriated from the general fund for the purposes of this act, and the expenditures properly incurred by authority of said board, and verified by affidavit, subject, however, to the limitations hereinbefore imposed, and shall be paid by the treasurer upon the warrant of the comptroller.

SEC. 13. This act shall take effect immediately.

CANCELLATION OF RULES.

In July last a communication from the board of health of Philadelphia, addressed to the collector of customs at that port, was referred by the honorable Secretary of the Treasury to the National Board of Health. The action of the board in the case, based upon the information so obtained, the rules and regulations made in pursuance thereof and their approval by the President are found in detail in the tenth number of the BULLETIN, published September 6, 1879. The cancellation of said rules and regulations by the President, upon the request of the National Board of Health, with the reasons therefor, are as follows:

NATIONAL BOARD OF HEALTH,
Washington, D. C., December 26, 1879.

SIR: I am directed by the executive committee of the National Board of Health, in accordance with power conferred upon it by said board, to request that you will cancel the inclosed rules and regulations relating to the proposed establishment of a quarantine station at the Delaware Breakwater.

This action has been determined upon after due inquiry and consultation with the health authorities of Philadelphia, also with the board of trade and board of merchants and shippers. This committee is satisfied that the danger is not sufficiently great from boarding-house runners, &c., at the present time to warrant the expense and partial delay to commerce which the enforcement of said rules will cause, and your cancellation of these rules is therefore respectfully requested.

Very respectfully,

J. L. CABELL,
President National Board of Health.
THOMAS J. TURNER,
Secretary National Board of Health.

His Excellency R. B. HAYES,
President of the United States, Washington, D. C.

EXECUTIVE MANSION, December 30, 1879.

Respectfully returned. The rules and regulations within referred to are hereby canceled as recommended.

R. B. HAYES.

MISCELLANEOUS.

DISTRICT OF COLUMBIA.—DR. S. Townshend, health officer, makes the following report on small-pox for the week ending January 3, 1880:

During the week ending January 3, 6 new cases were reported, 5 colored and 1 white; 1 females and 2 males. Three were taken to the hospital and the others were isolated in their homes. Three deaths occurred during the week. Of the six new cases, three were in premises where other cases were isolated, the others in localities far removed from each other, and in two instances remote from the section to which the disease has been generally confined. We have been unable to ascertain any history to warrant the belief that any of these later cases resulted from contact with any infected person known to this office. The vaccination service has been fully established and several hundred vaccinations made.

Me., 5,278; consumption 1, pneumonia 1; Calais, Me., 7,000; deaths, 2; under 5 years 1; pleurisy 1; Carrollton Miss., 600; no deaths; Columbus, Ga., 10,000; deaths, 3; under 5 years 1; diarrhoea 1; Fayette, Miss., 300; no deaths; Helena, Mont., 3,500; one death; Loretta, Miss., 300; no deaths; Louisiana, Mo., 5,000; deaths 2; dianola, Texas, 900; no deaths; Louisiana, Mo., 5,000; deaths 2; under 5 years 1; cerebro-spinal fever 1, diphtheria 1; Madison, Ind., 12,000; deaths, 5; under 5 years 1; consumption 3, diarrhoea 1; Mansfield, Ohio, 11,000; deaths, 2; under 5 years 1; Mount Pleasant, Iowa, 5,000; no deaths; Painesville, Ohio, 5,000; no deaths; Ripley, Miss., 1,000; one death; Shelbyville, Tenn., 2,000; one death; Starkville, Miss., 1,363; no deaths; Waterbury, Conn., 16,000; deaths, 2; consumption 1; Wesson, Miss., 2,000; consumption 1; Youngstown, Ohio, 17,000; 1 death; under 5 years; diarrhoea. Total population, 216,741; total deaths, 55; under 5 years, 21.

ADDITIONAL REPORTS, DECEMBER 20.

The following reports from places requiring burial permits, for the week ending December 20, were received too late to appear in the table for that date:

Plymouth, Mass., population 6,334; no deaths. Newburyport, Mass.,

13,800; 2 deaths; rate per 1,000, 7.3. Hudson County, N. J., 190,000; deaths 66; under 5 years 26; diarrhoea 1, diphtheria 1, erysipelas 1, cerebro-spinal fever 1, scarlet fever 5, whooping-cough 1, acute lung diseases 14, consumption 12; rate per 1,000, 17.3. Newark, N. J., 125,000; deaths 37; under 5 years 13; cerebro-spinal fever 1, consumption 5, diarrhoea 2, diphtheria 2, acute lung diseases 7, scarlet fever 1; rate per 1,000, 15.4. Reading, Pa., 40,110; deaths 15; under 5 years 3; consumption 5, puerperal fever 1; white 9; colored 22; under 5 Charleston, S. C., 57,000; deaths 31; white 9; colored 22; under 5 years 15; consumption 3, diarrhoea 3, acute lung diseases 3, typhoid fever 2; rate per 1,000, white, 18.8; colored, 35.8; both, 28.3. Savannah, Ga., 32,450; deaths 22; white 6; colored 16; under 5 years 8; consumption 7, diarrhoea 2, acute lung diseases 3, malarial fever 1, scarlet fever 1; rate per 1,000, white, 18.0; colored, 55.0; both, 35.1. Shreveport, La., 7,000; deaths 3; rate per 1,000, 22.3. Toledo, Ohio, 50,000; deaths 15; under 5 years 5; consumption 1, acute lung diseases 5, measles 1; rate per 1,000, 15.6. Saint Paul, Minn., 51,000; deaths 3; under 5 years 1; consumption 1, acute lung diseases 1, typhoid fever 1; rate per 1,000, 6.1. Vallejo, Cal., 5,000; 1 death; rate per 1,000, 10.4. Total population 596,980; total deaths 201; under 5 years 71.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
				1-70-80.								
Vancouver's Island.	Victoria	5,000	Dec. 20	1	10.4	..	..	..	..	..	..	38.0
Canada	Montreal	135,000	Dec. 20	62	23.3	..	..	..	..	..	..	10.9
Do	do	135,000	Dec. 27	53	20.5	..	..	..	..	..	..	9.3
Do	do	5,000	Dec. 27	42	80.2	..	..	..	..	..	..	12.6
Do	St. John	16,000	Dec. 27	2	9.3	..	..	..	..	..	..	12.6
Do	Kingston	16,000	Dec. 27	3	13.0	..	..	..	..	..	..	81.3
Do	do	22,919	Dec. 6	15	40.9	..	..	..	..	..	..	82.0
Do	Point à Pitre	22,919	Dec. 13	9	20.4	..	..	..	..	..	..	76.0
Guadaloupe	do	8,000	Dec. 3	1	6.2	..	..	..	..	..	..	55.0
Do	Aux Cayes	8,000	Dec. 10	1	26.0	..	..	..	..	..	..	58.0
Do	do	16,000	Dec. 20	6	30.0	..	..	..	..	..	..	55.0
Mexico	Matamoros	3,500	Nov. 29	7	104.4	..	..	..	..	..	..	55.0
Do	Acapulco	3,500	Dec. 6	5	43.3	..	..	..	..	..	..	55.0
Do	do	3,500	Dec. 13	5	74.5	..	..	..	..	..	..	70.0
Do	do	3,500	Nov. 8	7	146.0	..	..	..	..	..	..	67.0
Do	do	3,500	Nov. 15	3	92.6	..	..	..	..	..	..	67.0
Do	do	7,000	Nov. 15	1	27.3	..	..	..	..	..	..	65.9
Do	do	7,000	Nov. 15	1	6.8	..	..	..	..	..	..	34.4
Fayal, Azores	do	574,156	Dec. 13	344	30.9	..	..	..	..	..	..	31.1
Scotland	Glasgow	130,923	Dec. 13	61	21.1	..	..	..	..	..	..	28.7
Do	Dundee	538,438	Dec. 6	35	3.3	..	..	..	..	..	..	21.7
Do	Liverpool	538,438	Dec. 13	427	41.3	..	..	..	..	..	..	92.5
England	do	210,000	Dec. 13	117	23.1	..	..	..	..	..	..	31.1
Do	Bristol	3,620,267	Dec. 13	2,132	50.7	..	..	..	..	..	..	35.1
Do	do	92,068	Dec. 13	15	16.2	..	..	..	..	..	..	38.5
Do	do	104,902	Dec. 6	16	37.8	..	..	..	..	..	..	42.6
France	Rouen	104,902	Dec. 13	92	45.7	..	..	..	..	..	..	36.7
Do	do	104,902	Dec. 20	73	36.3	..	..	..	..	..	..	30
Do	do	1,988,806	Dec. 13	1,075	22.2	..	..	..	..	..	..	40
Do	Paris	1,988,806	Dec. 13	31	32.5	..	..	..	..	..	..	14.5
Do	Nice	222,000	Dec. 13	4	9.5	..	..	..	..	..	..	13.7
Do	Zurich	215,440	Dec. 6	91	22.0	..	..	..	..	..	..	38.8
Switzerland	do	215,440	Dec. 6	58	34.0	..	..	..	..	..	..	31.2
Saxony	Chemnitz	90,000	Dec. 6	28	16.2	..	..	..	..	..	..	18.7
Do	Nuremberg	125,000	Dec. 6	9	33.9	..	..	..	..	..	..	10.3
Germany	Bamberg	105,825	Nov. 29	47	23.3	..	..	..	..	..	..	17.8
Do	do	105,825	Dec. 6	513	23.3	..	..	..	..	..	..	20.6
Do	do	4,000	Dec. 13	14	15.2	..	..	..	..	..	..	16.1
Do	Mannheim	270,000	Dec. 6	129	24.9	..	..	..	..	..	..	22.6
Do	Breslau	93,000	Dec. 6	12	25.3	..	..	..	..	..	..	18.5
Do	Barmen	225,000	Dec. 9	154	32.0	..	..	..	..	..	..	56.3
Denmark	Copenhagen	97,800	Dec. 13	207	23.3	..	..	..	..	..	..	2.6
Italy	Lecce	127,874	Nov. 8	8	33.8	..	..	..	..	..	..	37.0
Do	Naples	97,874	Nov. 20	89	36.3	..	..	..	..	..	..	5.0
Do	Trieste	237,225	Nov. 29	37	20.7	..	..	..	..	..	..	6.8
Do	Vicenza	241,314	Dec. 13	154	25.0	..	..	..	..	..	..	56.3
Austria	Bucharest	400,000	Dec. 6	163	25.5	..	..	..	..	..	..	56.3
Romania	do	113,000	Dec. 6	45	20.8	..	..	..	..	..	..	64.0
Russian Poland	Warsaw	115,822	Dec. 5	81	26.4	..	..	..	..	..	..	66.4
Norway	Christiania	29,000	Nov. 29	37	26.5	..	..	..	..	..	..	63.0
Spain	Malaga	29,000	Dec. 6	32	53.5	..	..	..	..	..	..	63.0
Barbary	Tripoli	20,000	Dec. 13	25	65.2	..	..	..	..	..	..	..
Do	do	..	..	..	..	..	..	..	..	..	..	..

*Hospitals only.

WEEKLY SUMMARY OF MORTALITY.

For the week ending December 20, reports from several cities were wanting; some others came in too late, and appear as "additional reports" in the present number of the BULLETIN. The summary for

last week was excluded by want of space, but its principal features will be included in the following review. The reports for the week ending December 27 embrace a total population of 7,977,874; the number of deaths being 2,754, the annual rate is 17.9, having been 18.2 per 1,000 the week before. The ratio of deaths under five years

to the total mortality has for several weeks only varied between 37.1 and 38.3 per cent., being now at the latter rate, as compared with 37.8 for the previous week. The increase of mortality among children seems chiefly due to *diphtheria* and *croup*, which last week caused 7.22 per cent. of all deaths and 6.63 per cent. this week. The larger cities from Boston to Philadelphia report 67 deaths, and Chicago and Kansas City 53 deaths out of a total of 181 from these diseases. *Measles* continue to increase, and now cause 1.2 per cent. of deaths, having been formerly less than 1 per cent. The distribution of the disease is peculiarly limited, 32 out of the 33 deaths occurring in only two widely distant centers, New York and Brooklyn, and Chicago. *Scarlet fever* is generally declining, but still causes 3.31 per cent. of deaths. Providence, R. I., and Fall River, Mass., report more than one-fourth of the deaths, but the disease is widely spread through the Atlantic States as far south as Baltimore and extends to the Mississippi in the country north of the Potomac and Ohio Rivers. The Southern States are almost exempt. Taking the two rivers above named as a dividing line, the distribution of *consumption* and *acute lung diseases* still shows a balance in favor of the northern section, as pointed out in No. 25 of the BULLETIN, the ratio of mortality from the two diseases being about 25 per cent. for the northern and 30 for the southern division of States. This fact has already been referred to the greater fatality of these diseases among the colored people and also to the number of deaths occurring among those who seek a southern climate for relief from pulmonary affections. *Malarial fevers*, which caused 35 deaths this week, prevail chiefly in New York, New Jersey, and the States north of the Ohio River, which report 25 of the deaths. At this season there are few deaths from these fevers in the more southern States. *Typhoid fever* is most fatal in Philadelphia and Cincinnati, those cities reporting 17 of the 51 deaths. *Small-pox* caused 4 deaths in Philadelphia last week, no others being reported. This week Philadelphia and the District of Columbia report one death each, and one has occurred in Chicago. It is a point of interest that this third focus of the infection should have occurred in a place so remote from the first two. The reports published in the BULLETIN show that the most diligent inquiry has as yet thrown no light on the original introduction of the infection into the city of Washington.

ABSTRACTS FROM CONSULAR REPORTS.

PARA, BRAZIL.—United States Consul A. C. Trindle reports, for the month of November, 7 deaths from small-pox. The total number of deaths was 123, and the population being 40,000, the annual rate was 36.9 per 1,000. Malarial fevers cause the greater part of this large mortality.

SANTOS, BRAZIL.—November 30, United States Consul William T. Wright states that no data for filling weekly reports of mortality can be obtained. The mean temperature during the first week of November was 80°, and a long continuance of dry weather had caused much sickness, though no epidemic disease existed. The population of the town is about 11,000.

BUENOS AYRES.—Further advices from United States Consul E. L. Baker state that the most prompt and rigid measures of isolation and disinfection had been adopted in the case of yellow fever occurring in a Spaniard coming from Rio de Janeiro in the French steamer *Grande*, November 12. All vessels arriving from suspected ports are subjected to a quarantine of fifteen days, and the consul requires all vessels sailing from Buenos Ayres to take bills of health, though he does not think the disease likely to spread in that city. The case referred to was reported recently in the BULLETIN.

CALLAO, PERU.—The official report for the month of October shows a total of 258 deaths, of which 162 were from small-pox. Consumption caused 17 deaths, malarial fevers 15, dysentery 9, pneumonia and pleurisy 16, and cerebral diseases 12. No contagious disease other than small-pox is reported.

LISBON, PORTUGAL.—United States Consul H. W. Diman writes to correct the statement in No. 19 of the BULLETIN, concerning the quar-

antine imposed on vessels from ports of the United States. The vessels mentioned as being compelled to perform quarantine in Lisbon were from the Atlantic ports (New York and Philadelphia), and not from the Gulf ports of the United States.

BASEL, SWITZERLAND.—Mr. R. L. Doerty, acting United States consul, reports for the week ending November 29 twenty-three deaths in this city of 55,000 inhabitants, being at the annual rate of 23.6 per 1,000. The only zymotic disease reported is scarlet fever, which caused 2 deaths. Consumption 2, group 2, apoplexy 2, and "diseases of infancy" 6, are among the specified causes. The mean temperature for the month was 56.7°; the sanitary condition of the city rated as "good."

CANTON, CHINA.—United States Consul T. D. Cheshire reports, November 8, that no data can be obtained for mortality statistics in this city, of which the population is estimated at one million and a half. Although the drainage is defective, fevers of typhoid type are not prevalent; but malarial diseases and dysentery have been very fatal during the past summer. No contagious diseases are reported.

ISLANDS OF MALTA AND GOZOL.—United States Consul C. B. Eynard reports for the two weeks ending November 30 a total of 165 deaths in a population of 153,500; annual rate, 28.9 per 1,000. Five deaths were caused by typhoid, and one by typhus fever. No other contagious diseases reported.

MAZATLAN, MEXICO.—United States Consul E. G. Kellon reports 78 deaths for the month of November, in a population of 14,000, being at the annual rate of 66.9 per 1,000. The mean temperature was 72°; the prevailing diseases, diarrhoea and malarial fevers, as usual.

MONTVIDEO, URUGUAY.—United States Consul A. L. Russell sends reports for the months of September and October, and observes that the city is paved throughout, and so located as to give perfect surface drainage. The sewerage is also good, and the city is remarkable for the cleanliness of its streets. Climate equable and healthful. For September, 284 deaths are reported; 5 were from typhoid fever, and 3 from other contagious diseases. The population being 111,500, the annual death rate was 20.1. Consumption is common. For October, 289 deaths are reported; 5 from typhoid fever, and 3 from other contagious diseases; death-rate, 25.9. The above figures would not represent a very good sanitary condition in the same latitude north.

VINCE, ITALY.—United States Consul E. Harris sends the following report for the quarter ending September 30, 1879: Population, 110,437; total deaths, 1,007; annual rate per 1,000, 28.6. The principal causes of death were: Gastric and intestinal diseases, 133; marasmus, 125; consumption, 169; cerebral diseases, paralysis, and epilepsy, 111; lung diseases, acute, 7; typhoid and typhus fevers, 40. Hospitals: Patients remaining from last quarter, 2,468; admitted since, 3,820; total, 6,287. Of these, 311 died, 3,576 recovered, and 2,607 remained under treatment. Barometer: The mean for the quarter was 29.94 inches; maximum, 30.05, in September; minimum, 29.86 in July. Thermometer: Mean for the quarter, 75.4; highest, 86.6, in August; lowest, 61.5, in September. Humidity: Greatest, 71.56, in September; least, 61.20, in August; mean for the quarter, 64.71. Rainfall: 12.2 inches for the quarter, of which 6.76 fell in the last ten days of September.

TAHITI, FRIENDLY ISLANDS.—United States Consul D. Atwater writes as follows, under date of November 12:

There has been no contagious disease in this and the adjacent islands for many years, notwithstanding bad drainage and sewerage, and numerous cess-pools and closets in town. The water used for drinking and cooking is about equally divided between springs, wells and rivers. Streets are cleaned every two days, and garbage removed to the outskirts of the town; horse-yards are not so well cleaned. The close proximity of the sea no doubt contributes to the salubrity of the town. Consumption is the prevailing disease among the natives; of their children, it is estimated that one-fourth are still-born. The deaths in the foreign population are mostly among those newly arrived. The census of 1877 gave Tahiti a population of 6,820 natives, 1,333 Europeans and Americans, 282 natives from other islands, and 106 Chinese; total, 9,551, of which number 2,352 reside in the town of Papeete, capital of Tahiti. The island of Moorea, ten miles distant, has a population of 1,293 natives, 113 natives of other islands, 77 Chinese, and 34 Europeans and Americans; total, 1,487, and in the two islands, 10,037. In this population, the deaths in 1879 to this date (104 months) were 192 natives, and 24 whites; total, 216, which gives an annual rate of 22.5 per 1,000.

TAMATAVE, MADAGASCAR.—United States Consul W. W. Robinson reports as follows, October 16, 1879:

The *malady fever* is the prevailing disease. This is the malady which a century or two ago caused Madagascar to be named "the tomb of Europeans," and it still bears a very bad reputation throughout the civilized world as to the salubrity of the coast districts. Although the true condition is sufficiently bad, yet the evil has been much exaggerated, especially as to the fatal result of the disease. The malady *per se* is by no means fatal; it is only when complicated with other and more dangerous diseases that fatal results follow. It fratemizes quickly with all such and helps to wear the patient out. Persons whose systems have become debilitated by disease of any kind, by wounds, or by dissipation are sure to be attacked by this disease; therefore such persons should not come to Madagascar. It requires a healthy, strong constitution to resist this malady or to endure its attacks. The fever prevails more or less during the whole year, yet two seasons are marked by it, the sickly and the healthy, so called, although it is only comparatively healthy in the best season, which extends from April to December. During this period the southeast monsoon prevails, which is a bracing, healthy breeze. The heated and sickly season extends from December to April, during which time a northeast wind prevails, which is disagreeable and very debilitating. It brings out a clammy perspiration, causes loss of appetite, and generally more or less nausea, even when the person is not attacked by the fever. Let the wind veer to the southeast or south for a few hours and all these symptoms disappear, returning again on a change of the wind to the northeast.

Small-pox, which has been the great plague of Madagascar heretofore, always exists in a sporadic form when and where not epidemic. It swept this eastern coast three and a half years ago, carrying off, as near as could be ascertained, about eight hundred people in this town in the space of two months, attacking all who had not had the disease or were not protected by vaccination; and when there were no more subjects to feed upon it disappeared, to return again, without doubt, when its supply of food shall be renewed in a new generation. The disease was almost confined to the natives, the foreign residents being generally protected by vaccination. The natives, in their dread of the disease and ignorance of proper remedies and of judicious sanitary measures and precautions, resort to a measure which has a direct tendency to spread it. When the malady makes its appearance in epidemic form the local authorities direct a police force, which is assigned to the duty, to search the town for cases and carry them forthwith into the country; and the patients are forbidden under heavy penalties to return into the town within two months. Such as have friends in the country who will receive them go to them. Such as have none are left under the trees to take care of themselves alone, unless they happen to have friends kind enough to accompany them in this grievous exposure. The consequence is that the cases are thus scattered through the surrounding country, and no signal is ever raised to notify passengers of the dangerous locality. Again, in the town, the families having members attacked by the malady and degrading this inhuman practice, naturally keep the disease secret if possible, and instead of warning passengers the visitor is told that the sick person is afflicted with something else. Small-pox is never admitted to be the affliction. I have heard of no cases of yellow fever, cholera, or plague in the country. Skin diseases, contagious and otherwise, are rather numerous. Among the former the itch, or French *gale*, and leprosy probably take the lead. Venereal diseases are prevalent, and the syphilitic type is said to be very severe and stubborn in its nature.

CORRESPONDENCE OF THE NATIONAL BOARD OF HEALTH.

HELENA, ARK.—Dr. W. W. McAlpine, secretary of the local board of health, states, December 23, 1879, that there is a city ordinance requiring all physicians, midwives, &c., to register and report to the city recorder all births and deaths. This ordinance being only partially complied with, the books of the recorder cannot afford reliable data for reports. Dr. McAlpine addressed notes in July to all practicing physicians, requesting weekly reports, which were furnished very regularly to September 20; since that date he has received but two weekly reports.

HOLDEN, MO.—W. C. Smith, mayor of Holden, writes as follows, January 2, 1880, concerning this city and its sanitary condition:

This city is located in a beautiful country, composed of vast undulating prairies, interspersed with timber, with soil of deep black loam, unsurpassed in fertility, and adapted to the growth of corn, wheat, oats, potatoes, barley, and grass. The entire country is settled by enterprising, industrious, and intelligent citizens, and the general health of the surrounding country is very good, as might be expected from our climate and soil. Our country drains to the north to the Missouri River and south to the Osage. Good water, generally impregnated with lime, can be got by sinking wells from twenty-five

to forty-five feet. Cisterns are, however, in general use, both for family and for stock. Our city authorities have not given that attention to the sanitary interests that I have desired, but the attention given to the matter has prevented malarial disease to some extent, and that is about all we have to contend with, although during the last few weeks there have been a few sporadic cases of diphtheria. Our sidewalks are composed of wood, and a general decay of stringers and parts of boards underneath and not exposed to air and sun will, I fear, cause disease to spread among us. The privies are generally holes from three to eight feet deep, some of them planked and some in the soil. Both I consider unhealthy, the plank decaying and the excrement deposited becomes offensive, and the opportunities for cleaning and removing the deposit are not good. Consequently pumps are resorted to, which are offensive in the extreme. When the pump is not used negligence permits the privies to fill, and then of course typhoid fever and other diseases are liable to appear. Taking everything into consideration, we are indebted to our extremely healthy climate and soil rather than to our pains to care for our health by sanitation.

FOREST CITY, ARK.—Dr. J. B. Cummings submits the following report on the outbreak of yellow fever in this city:

On the 16th day of July last the town of Forest City quarantined against the city of Memphis, Tenn., forty-five miles distant, separated by a swamp forty miles wide, almost impassable in the winter season, the roads being good in the summer months. The municipal board of health of the town immediately placed guards on every road leading into it, which guards were continued until a week before the first suspicious case of fever occurred, then removed, owing to the lateness of the season and the fact that the State board of health established a quarantine beyond at Hopefield, opposite Memphis, mouth of Saint Francis River, and at other points in the opinion of the State board most important. The instructions given the guards were not to allow any stranger who had not a clean bill of health (that is, had not been exposed to yellow fever infection for at least twenty-one days) to enter the town; and if such person should run the guards that he be at once put out of town. We were of the opinion that the town was, to a very considerable degree at least, protected from the introduction of yellow fever. As a matter of fact the local board and the town authorities did everything so far as the corporate financial condition would admit, to prevent yellow fever being introduced. After all was done, on October 2, the first suspicious case of fever occurred in the person of Mrs. Keathly, the wife of a merchant of the place, who lived in an isolated residence, almost new and in a splendid sanitary condition. This lady had been an invalid for months, and for five months previous had not been out of her own yard, with the exception of attending the funeral of a patient who died after a surgical operation. Mrs. Keathly was taken ill within a few hours after returning from the funeral. She lived until October 8, when she died, having all the symptoms of yellow fever. From this case as a center thirty persons (mostly ladies) contracted the disease. Of this number twenty died. In all about forty persons were exposed.

From October 8 to October 13, no very well marked cases developed in the practice of that part of the local profession that advocated the yellow-fever theory. On October 13 the local board of health declared the disease to be of the yellow-fever type. This proclamation of the board produced almost complete depopulation of the town. On October 17, Dr. W. B. Winn, inspector National Board of Health, and myself applied to the National Board of Health for money to establish a thorough system of quarantine against ingress or egress from the adjacent country, which was granted and put into operation October 20; this complete system of non-intercourse continued for ten days during the warm weather that we were then having, and was, in my opinion, of untold benefit in preventing the spread of the disease and in saving human life.

The weather in the mean while turning cool, it was thought advisable to raise quarantine. Unfortunately the weather again turned warm, and the disease developed in five persons who had been exposed during the outbreak of the fever. In one instance the disease was forty days developing from the time of last exposure; in another, thirty-eight days. These two cases were well established and the notes of both carefully taken.

The last death from yellow fever occurred November 25; there now remain two convalescent from the fever in the third week of the disease. Nearly all of the cases were persons in the better walks of life, with good sanitary surroundings. It is very probable that a Mrs. Snyder, a near neighbor of Mrs. Keathly, had yellow fever and died with the disease. Some ten days before the sickness of the latter, between the two families there was constant communication daily, almost hourly. After the most careful investigation, it is impossible to trace the introduction of the disease to any particular person or goods, though I am fully satisfied that our quarantine system, further than stopping public carriers, was wholly inefficient and worthless. While I am of the opinion that a perfect system of quarantine is valuable, and indeed our only hope, I cannot consent to the farce that has been practiced in this State during the late summer as

being of any great advantage further than stopping our railroads and other carriers. Another great aid in stopping the spread of the disease at this place was the prompt manner in which the dead were disposed of; a corpse was never allowed to remain unburied more than two hours, day or night; the body was wrapped in a sheet wet with the zinc solution, and immediately placed in the coffin, with an airtight covering. The bedding, clothing, carpeting, and other articles likely to be infected, were buried, the room fumigated with sulphur and afterward thoroughly aired. Another precaution taken was the addition of coppers to the stools, urine, and vomit, and these immediately buried. Most generally the nurses were required to do this work, thereby not exposing persons more than possible who had never had the fever. From the above facts, my conclusions are these:

First. Doubtful cases of fever in the yellow fever belt and season, especially if yellow fever be prevailing at the time in the vicinity, should be removed without delay to the health authorities, in other words the people and not the disease should be given the benefit of the doubt. In our own epidemic, I fear we gave the doubt on the side of the fever mainly from the fact of a difference in opinion of the local physicians.

Second. The town should be depopulated at once, when it is certain that a case of yellow fever has occurred, even though the citizens can afterward safely return.

Third. The town or city should speedily be quarantined against the adjacent country, and a perfect non-intercourse established, the pass system sometimes practiced abolished. This quarantine should be under the State board of health officials, with law to punish violators of its regulations, and the whole under jurisdiction of the National Board of Health.

Fourth. The dead should be promptly buried, without washing or dressing, wrapped in a sheet wet with the zinc solution, the bedding, clothing, carpets, and other articles likely to be infected at once buried, the room thoroughly aired after sulphur fumigation.

Fifth. Houses with the sick in them should be designated, so that they might be avoided. Physicians and attendants on the sick should practice isolation from the well as far as possible. I need very much to have so long delayed my report, but I had hoped to have been able to give the National Board of Health some idea of the origin of the disease here, in which I have been disappointed.

WATERTOWN, N. Y.—Dr. H. Deane writes, December 31, 1879, that burial permits are required at that place. A severe epidemic of scarlet fever had prevailed there during the past six months.

QUARANTINE REGULATIONS, NORFOLK, VA.

An act to constitute one quarantine district of the Elizabeth River and its branches, and to create a board of quarantine commissioners and a quarantine medical officer for said district. Approved February 26, 1877.

1. Be it enacted by the general assembly of Virginia, That for the better protection of the cities of Norfolk and Portsmouth, and Norfolk County, against the introduction of infectious and contagious diseases by vessels arriving in the common harbor of said cities, or into any part of the Elizabeth River, and to secure uniformity in the administration of the laws and regulations concerning quarantine appertaining to shipping in said river, the Elizabeth River and its branches shall constitute one quarantine district.

2. That a board of commissioners is hereby created, to be known as the board of quarantine commissioners for the district of Elizabeth River, the said board to consist of seven commissioners, three of whom shall be appointed by the council of the city of Norfolk, three by the council of the city of Portsmouth, and one by the judge of the county court of Norfolk County. Each of said representations of three commissioners on said board shall embrace at least one practicing physician, if practicable. The said commissioners shall hold their office for the term of four years, commencing on the 1st day of April, 1877, unless sooner removed by the authority appointing them. All vacancies in the board shall be filled in the same manner as the original appointments. The said board shall organize by electing one of their number president, with such other officers as they may deem necessary; and a majority of the board shall constitute a quorum for the transaction of business.

3. That the said board of quarantine commissioners shall be invested with all the powers now granted by law to the councils of the cities of Norfolk and Portsmouth, and to Norfolk County, or by the general law on the subject, in regard to the establishment and regulation of matters of quarantine, and they shall prescribe such rules and regulations, conformably to existing law, as they may deem necessary, and have exclusive control of the quarantine appertaining to shipping for the Elizabeth River and its branches, and the cities, towns, and villages situated thereon. They shall meet quarterly, upon any day

agreed upon by themselves; but the president of the said board may, upon his own motion, and shall, at the request of any two members of the board, by written notice to each member, convene the board at any time when circumstances may render prompt action necessary. The said board shall at their first meeting, or as soon thereafter as practicable, select a suitable quarantine anchorage, and shall adopt and publish for the information and government of all concerned rules and regulations for the management and enforcement of an efficient system of quarantine for said district. All pilots licensed by the laws of this State are hereby required to conform to the rules and regulations thus adopted, under the penalty of a fine of not less than twenty nor more than one hundred dollars. The said board shall require the quarantine medical officer hereinafter created to faithfully carry out these rules and regulations; and they shall have power to review the official action of said officer, and to revoke or reverse his decision in regard to any particular vessel; and in such case they shall record their reasons for so doing in the minutes of their transactions. The said board of quarantine commissioners shall not, as a board, nor shall any of the members thereof in their official characters, make any recommendation for the appointment of the quarantine medical officer hereinafter provided for.

4. That the said board of quarantine commissioners shall have power, whenever in their opinion circumstances may demand it, by and with the consent of the councils of the cities of Norfolk and Portsmouth, to acquire by condemnation, as provided for by existing laws, or by purchase, a suitable site for a lazaretto at any eligible point on Elizabeth River, and to erect thereupon one or more buildings, to be constructed of wood, for the temporary accommodation and treatment of sick seamen and passengers arriving at the quarantine anchorage upon infected vessels: *Provided*, The cost of such a site and the erection of the buildings thereon shall not exceed the sum of \$5,000; *And provided further*, That the cost of the maintenance and treatment of the persons so removed to the lazaretto buildings from infected vessels shall be paid by the masters or owners of such vessels, upon which the costs thus incurred shall constitute a lien.

5. That the said board may, by and with the consent of the councils of the cities aforesaid, acquire by purchase, or by lease, of a site and the erection of lazaretto buildings, provide and fit out a floating hospital for the accommodation and treatment of the same class of infected persons as is described in section 4 of this act: *Provided*, The expense so incurred shall not exceed the amount specified in said section; such floating hospital to be moored, when having on board infected persons, at such point in the lower river or Hampton Roads sufficiently removed from the channel so as not to endanger the health of persons on board of passing vessels.

6. That the said board of quarantine commissioners shall pay the annual salary of \$500, in quarterly installments of \$125 each, to the quarantine medical officer created by this act; and in case they shall see fit to purchase the site and erect the lazaretto buildings, or instead thereof to provide and fit out the floating hospital hereinbefore provided for, they shall make a report of their proceedings, accompanied by a verified statement of all the expenditures thereby incurred, to the councils of the cities of Norfolk and Portsmouth and to the county court of Norfolk County.

7. That the governor shall appoint and commission a quarantine medical officer for said district, who shall be a resident of the city of Norfolk or of the city of Portsmouth, or Norfolk County, and whose term of office shall be for two years from the 1st day of April, 1877, unless sooner removed by the governor, and who shall be the inspecting officer for all vessels arriving in the Elizabeth River or any of its branches, subject to such inspection as shall be required by and in accordance with the rules and regulations of the board of quarantine commissioners created by this act: *Provided*, That no one shall receive such appointment who is not a doctor of medicine of good standing, and who has not had at least five years' experience in the practice of his profession.

8. That the quarantine medical officer shall board with promptness all vessels liable to his inspection, and no vessel shall be detained in quarantine without his stated decision. No vessel thus detained by him shall change her assigned position without his written permission. He shall superintend the thorough cleansing, by the most approved methods, of any infected vessel, at the proper cost of such vessel. He shall not allow pratique to any vessel once detained by him by reason of said vessel having, at the time of his inspection, infectious disease on board, or of her having had such disease on board at any time during her voyage, without the express sanction of the board of quarantine commissioners. He shall have general supervision, control, and control of any lazaretto or floating hospital that may be established under the provisions of this act, and the care and treatment of any such patient. He shall administer oaths and take affidavits in examinations as to the sanitary condition of vessels and in relation to any alleged violation of the quarantine regulations; such oaths to have the same validity and effect as if administered by a justice of the peace. He shall have authority to direct, in writing, any constable or police officer to pursue, within the limits of his district, and arrest any person who shall violate any quarantine regulation or obstruct him in the performance of his duty; and any person violating the quarantine laws or regulations, or obstructing the quarantine medical officer in the discharge of his duty, shall be deemed guilty of a misdemeanor, punishable by a fine of not less than twenty nor more than five hundred dollars, or by

imprisonment of not less than one nor more than six months; and warrants for any offenders under this act may be issued upon the oath of any party complaining by any justice of the peace of any city or county or the mayor of any city in the State in which such offender may be at the time; and upon proof of probable cause the offender shall be bound, with security, in due form of law, to appear at the next term of the corporation or county court of said city or county for trial of such misdemeanor; and the corporation or county court of such city or county shall have jurisdiction for the trial thereof, as in other cases of misdemeanor. All fines recovered under the provisions of this act shall be turned over to the said board of quarantine commissioners, to be used by them in carrying out the objects of this act.

9. The quarantine medical officer shall exact of the master, owner, or consignee of each vessel visited by him in the performance of his official duties a fee of \$7 for each necessary visit of inspection, and also the cost of cleansing, fumigation, or disinfection whenever necessary, recoverable before the mayor or any justice of the peace of either of the said cities or said county. He shall defray all expenses attending upon his inspection of vessels out of the fees thus received, and he shall keep a true record of his receipts and expenditures, and report annually to the board of quarantine commissioners the items of the same. He shall also report to the said board annually, on or before the 20th day of December, the names and class of all vessels visited by him during the year, the disposition made of such vessels, and such other information concerning the quarantine service as he may deem expedient.

10. The quarantine medical officer shall, when required by the board of quarantine commissioners, reside at or near the quarantine grounds or anchorage. He may, with the consent of the said board, appoint a deputy, who shall possess like qualifications and be invested with the same powers as himself; but the said quarantine medical officer shall be held responsible for the conduct and compensation of such deputy.

11. That for the purpose of defraying the necessary expenses to be incurred by the board of quarantine commissioners in carrying out the provisions of this act the city of Norfolk shall be assessed with and shall pay three-sevenths thereof, and the city of Portsmouth shall be assessed with and shall pay one-seventh thereof.

Provided, That the said board of quarantine commissioners shall receive no compensation for their services.

12. That all acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

13. This act shall be in force from its passage.

At a meeting of the State board of health of Mississippi, held in the city of Jackson, December 17, 1879, the following resolution was unanimously adopted:

Resolved, That in the name of the people of Mississippi the State board of health expresses profound gratitude to the National Board of Health for the liberal and timely financial and other assistance extended to our State during the present year, by which six quarantine stations were established and maintained for sufficient length of time to protect our citizens from a threatened invasion of another epidemic of yellow fever.

WIRT JOHNSON,
Secretary.

C. A. RICE,
President.

NATIONAL BOARD OF HEALTH ROOMS are at 1410 G street, northwest.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of five cents per copy. Notice of at least one week should be given when a large number is required.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH

Name.	Residence.
Allen, T. J., M. D.	Shreveport, Louisiana.
Ambruster, Charles, M. D.	Boulder, Colorado.
Bates, C. B., M. D.	Santa Barbara, California.
Baleh, G. B., M. D.	Yonkers, New York.
Barton, George W., M. D.	Tallahassee, Florida.
Bissh, C. H., M. D.	Austin, Texas.
Burrongs, R. B., M. D.	Jacksonville, Florida.
Ballard, G. B., M. D.	Sarat Johnbury, Vermont.
Band, James B., M. D.	Atlanta, Georgia.
Brewer, Charles, M. D.	Vineand, New Jersey.
Blinn, J. S., M. D.	Brunswick, Georgia.
Barnard, A. E., M. D.	St. Mary's, Kansas.
Cleemann, E. A., M. D.	Philadelphia, Pennsylvania.
Chaban, Jerome, M. D.	Mobile, Alabama.
Carter, J. L., M. D.	Dallas, Texas.
Cummings, J. B., M. D.	Forrest, Arkansas.
Campton, J. W., M. D.	Evansville, Indiana.
Canby, E. W., M. D.	Holly Springs, Mississippi.
Demott, J. J., M. D.	Huntsville, Alabama.
Dale, E. T., M. D.	Pilot Point, Texas.
Demmon, Charles, M. D.	Denver, Colorado.
Delaney, E. M., M. D.	Fond-du-Lac, Wisconsin.
Drubell, J. A., M. D.	Little Rock, Arkansas.
Dorsey, R. W., M. D.	Elkton, Maryland.
Ellis, Charles M., M. D.	Union City, Tennessee.
Evans, S. H., M. D.	Galesburg, Illinois.
Foot, G. M., M. D.	McComb City, Mississippi.
Ford, D. W., M. D.	Sing Sing, New York.
Fisher, George, M. D.	Portland, Maine.
French, George F., M. D.	Tarrytown, New York.
Freeland, N. H., M. D.	Chapel Hill, North Carolina.
Fite, C. C., M. D.	Crystal Springs, Mississippi.
Fulham, F. L., M. D.	Raleigh, North Carolina.
Garrison, E. D.	Gann City, Missouri.
Gilliland, D. D., M. D.	Hennepin, Tennessee.
Hoppe, W. T., M. D.	Devall's Bluff, Arkansas.
Holton, H. D., M. D.	Brattleborough, Vermont.
Hower, Frederick, M. D.	Salon, Virginia.
Hays, J. M., M. D.	Philadelphia, Pennsylvania.
Hoblin, Edgar, M. D.	Newark, New Jersey.
Hyndman, J. G., M. D.	Cincinnati, Ohio.
Hawkins, A. W., M. D.	Huntingdon, Tennessee.
Harris, T. W., M. D.	Chapel Hill, North Carolina.
Hough, F. B., M. D.	Lowville, New York.
James, B. W., M. D.	Philadelphia, Pennsylvania.
Jenkins, J. Foster, M. D.	Yonkers, New York.
Jones, N. E., M. D.	Charlestown, Ohio.
Jepson, S. E., M. D.	Wheeler, West Virginia.
Kellogg, J. B., M. D.	Battle Creek, Michigan.
Knowles, L. D., M. D.	Kendall, Michigan.
Kittrell, R. F., M. D.	Edinburg, Mississippi.
Le Hardy, J. C., M. D.	Savannah, Georgia.
Lindley, Walter, M. D.	Los Angeles, California.
Lowman, Prof. J. H.	Cleveland, Ohio.
Logan, J. P., M. D.	Atlanta, Georgia.
Maltz, J. W., M. D.	University of Virginia.
Moore, R. C., M. D.	Omaha, Nebraska.
Mosher, J. S., M. D.	Albany, New York.
Neal, Thomas L., M. D.	Durham, Ohio.
Seelbach, W. A., M. D.	Gallipolis, Ohio.
Nagle, John T., M. D.	New York, New York.
Oulton, W. B., M. D.	Saint Louis, Missouri.
Ockford, G. M., M. D.	Barre, Vermont.
Parke, P. P., M. D.	Charleston, South Carolina.
Par, T. S., M. D.	Indianola, Texas.
Rimbold, E. F., M. D.	Saint Paul, Missouri.
Smith, N. G., M. D.	Lewistown, Indiana.
Stolman, Joseph, M. D.	Jamaica Plain, Massachusetts.
Staples, F. M. D.	Winona, Minnesota.
Saunders, L. L., M. D.	Grenada, Mississippi.
Stearns, J. H., M. D.	Milwaukee, Wisconsin.
Sumner, J. J., M. D.	Salisbury, North Carolina.
Snow, E. M., M. D.	Providence, Rhode Island.
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National Board of Health BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JANUARY 17, 1880.

[No. 29.]

DISINFECTANTS.

Experiments designed to test the value of certain gaseous and volatile disinfectants, by George W. Sternberg, Surgeon U. S. A.

The following experiments, designed to test the value of some of the most commonly used disinfectants, were commenced by the writer in 1876. They are now resumed by direction of the National Board of Health, and the results will be reported from time to time:

When disinfection is practiced in ships, dwellings, and hospitals, for the purpose of destroying the virus of some infectious disease, other measures are commonly resorted to as well, such as ventilating, scrubbing, whitewashing, and painting, so that the result, if successful so far as the non-occurrence of subsequent cases of the disease is concerned, cannot fairly be attributed to the action of the disinfectant employed; and it is difficult to determine what share, if any, the so-called disinfection has had in the accomplishment of this result. It is well known to sanitarians that methods of disinfection have often enjoyed the confidence of the public, and even of accomplished physicians, which are demonstrably inefficient, and consequently harmful, as giving false confidence and supplanting other and really efficient methods. As examples of this, may be mentioned the chlorine saucers which it was formerly the fashion to place under the beds in hospital wards, and the piece of flannel saturated with a few drops of carbolic acid, which is still frequently hung up in the sick-room by order of the "doctor." No one will deny that chlorine and carbolic acid are, under certain circumstances, and in certain quantity, valuable disinfectants. The protest made here is against their use in demonstrably insufficient quantity with the unjustifiable assumption on the part of physicians and their patients that disinfection has been practiced, and that responsibility as to the occurrence of subsequent cases of the disease is at an end after such disinfection.

It is evident, then, that those disinfectants which enjoy the most reputation should be tested by some method other than their use in the sick-room, and that, if possible, exact data should be obtained to serve as a guide in their employment.

The main difficulty in such an undertaking is to obtain a test which will be accepted as satisfactory. The power to destroy the vitality of bacteria is a test of value, as indicating the arrest of putrefactive processes, but, in the present state of science, cannot be accepted as proving a power to destroy the specific poisons of the infectious diseases. It has been used in some of the following experiments and will be used in future for a comparison of results with those obtained from other tests believed to be more trustworthy. These tests depend upon the power of the disinfecting agent to destroy the potency of vaccine virus as shown by vaccination, and of the septic poison as shown by inoculation experiments.

It may probably be safely assumed that the infectious material of small-pox would be destroyed, so far as its specific action upon man is concerned, by any substance which is capable of neutralizing the potency of vaccine virus, if it be subjected to the action of the particular disinfectant used under the same conditions as to temperature, moisture, quantity of disinfectant, amount and physical condition of virus (wet or dry, in powder or in masses, &c.). The inference may not be justified that what destroys the infectious material of small-pox will destroy the specific poison of the other infectious diseases, but there is at least a strong probability in its favor and no better test can perhaps be found.

The apparatus used in the following experiments is a simple air-chamber, having a capacity of 6½ cubic inches, 1.82 pints, or 10.5 litres, and intended to represent the apartment to be disinfected. This air-chamber is provided with a close-fitting door to permit the introduction of the vaccine virus, &c., and has openings, closed by corks, for the introduction of gases. The top and sides are of glass, and the glass top has a perforation closed by a valve upon the inside of the box, but operated from the outside.

This is for the purpose of permitting experiments upon bacteria, &c., without opening the air-chamber into which a given percentage of some disinfectant has been introduced. To accomplish this a watch-glass containing a drop of the fluid to be experimented upon (e.g., putrefying meat juice filled with bacteria) is inverted over this

opening and the valve is opened, thus exposing the concave surface of the watch-glass to the atmosphere of the interior of the box. A microscope, mounted upon the air-chamber as a stand, permits the observation of bacteria upon the inverted watch-glass while exposed to the disinfectant.

Experiment 1. Drop of water containing actively moving bacteria exposed over aperture in top of air-chamber, on inverted watch-glass; one sulphur-match burned in air-chamber; all movements of bacteria had ceased at end of five minutes; watch glass removed from over aperture; no movement four hours later.

Experiment 2. A similar drop exposed for two minutes. All movement had ceased at expiration of this time; a few bacteria moving at the end of four hours.

Experiment 3. A similar drop exposed for one minute. Bacteria still active; four hours later still active. Exposed again for four minutes to SO_2 produced by burning half a match (split) in air-chamber; all motion had ceased at expiration of this time.

Experiment 4. A similar drop exposed to SO_2 , produced by burning one grain sulphur in air-chamber; all motion arrested in one minute.

Experiment 5. The same, burning one-eighth grain sulphur in air-chamber; all motion arrested in six minutes.

Experiment 6. Drop of infusion of meat containing inactive active bacteria (*b. ferus*) exposed on inverted watch-glass over aperture in air-chamber; one-fourth grain of sulphur burned; motion ceased in eight minutes.

Experiment 7. The same repeated, burning one grain of sulphur in air-chamber. Motion ceased in two minutes. Experiments 8 and 9, same repeated with same result.

Experiment 10. The same, with one-half grain sulphur burned in air-chamber. Motion ceased in two minutes.

Experiment 11. Same, with same result.

Experiment 12. One fluid dram of pure carbolic acid in watch-glass placed on floor of air-chamber. Drop of fluid containing bacteria exposed on inverted watch-glass over aperture. Bacteria still active at end of twenty minutes.

Experiment 13. Drop of vegetable infusion containing bacteria exposed to fumes of carbolic acid from a rag suspended in air-chamber. Amount used, eight drops impure acid. Motion ceased in twenty minutes.

Experiment 14. One drop of pure carbolic acid placed within one-eighth of an inch of drop of water containing bacteria in watch-glass, which was inverted on glass top of air-chamber (aperture closed). Motion of bacteria ceased in five minutes.

Experiment 15. Liquor ammoniac in watch-glass placed on floor of air-chamber. Drop of water containing bacteria exposed over aperture. All movement ceased in three minutes.

Experiment 16. Bacteria in drop of putrefying meat infusion exposed over aperture, with one ounce chloride of lime in saucer on floor of air-chamber. Bacteria still active at end of thirty minutes.

Experiment 17. Watch glass filled with infusion of meat swarming with bacteria of putrefaction placed in air-chamber, the watch glass resting upon one ounce of chloride of lime in a saucer. Bacteria still active at end of thirty minutes. At end of one hour movement sluggish. In one hour and thirty minutes all movement had ceased.

Experiment 18. Above repeated with same result.

Experiment 19. Drop containing bacteria exposed to fumes of five drops of impure carbolic acid from rag suspended in air-chamber; equal to forty six fluid ounces in a room twelve feet square and twelve high. Movement ceased at end of one hour.

Experiment 20. Above repeated. Motion ceased at end of thirty minutes. (Smaller drop and more time allowed for volatilization of carbolic acid.)

Experiment 21. Above experiment repeated with same result; motion ceased in about thirty minutes.

Experiment 22. Experiment repeated with three drops of impure acid; motion ceased in one hour and ten minutes.

Experiment 23. Vaccine virus, quite fresh, rubbed up with glycerine and divided into two portions: One portion exposed for twelve hours to SO_2 , produced by burning one-fourth grain of sulphur in air-chamber; three children vaccinated on the following day with this virus, also with the virus not exposed to sulphurous acid gas. *Result:* Examined children on seventh day, and found in each case a characteristic vesicle from the insertion of virus not exposed to SO_2 , and a completely negative result from virus exposed in air-chamber.

Experiment 24. Fresh vaccine virus, rubbed up with glycerine and

divided into two portions: One portion placed in air-chamber for twelve hours, exposed to fumes of five drops of carbolic acid volatilized from a rag suspended in air-chamber; five children vaccinated the following day, each from both portions of virus in two different places. *Result:* Examination on seventh day showed eight charac-

teristic vesicles from the ten insertions; one failure from carbolized virus, and one from non-carbolized.

Remark. These experiments upon vaccine virus are now being continued, with the kind assistance of Dr. Smith Townshend, health-officer of the District of Columbia.

Report of mortality in cities of the United States for the week ending January 3, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diarrheal diseases.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Me	Bangor	29,000	1	6	15.6	1	1	1	2								1		
N. H.	Coucord	14,000		6	32.5	2	2	2	2										
Mass	Boston	375,000	49	137	19.0	26	1	10	3	23							6	2	
	Cambridge	50,000		21	21.0				3										
	New Bedford	27,000	5	13	25.7				1										
	Newburyport	13,500	2	9	33.4				1										
	Marblehead	7,500	4	7	48.7				5										
	Fall River	48,500		25	26.9	4	1	1											
	Plymouth	4,334	2	3	24.7				1								1		
	Lawrence	40,000	1	13	16.5				1										
	Pittsfield	12,000	2	6	26.0	1		1											
	Milford	10,000		5	16.4														
	Somerville	34,000	1	5	11.3				1										
R. I.	Providence	101,500	15	52	26.7	6		2	9										
Conn	New Haven	60,000	5	1	2.7	2			1										
Vt.	Barre	16,500	1	1	3.2				1										
N. Y.	Brooklyn	1,097,563	196	508	24.1	2	88	9	16	3	101	3	12	4	6	4	9		
	Yonkers	564,448	92	922	30.5	33	33	2	36										
	Poughkeepsie	19,000	1	3	8.2				1										
	Newburgh	23,000	2	9	13.0	1			3										
	Sing Sing	17,568	2	6	17.8				1										
	Utica	5,100		4	41.7				2										
	Rochester	35,000	10	27	40.2				1										
	Binghamton	96,000	10	31	17.9	6	1	2	1							3			
	Newark	18,000		3	7.7				5										
N. J.	Hudson County	190,000	42	4	22.0	7	2	9	13										
	Paterson	125,000	20	46	22.4	1		1	1										
Penn	Philadelphia	46,000	1	25	32.8	1			1										
	Erie	901,340	102	317	18.3	1	45	3	18										
	Reading	30,000	3	9	15.6				1										
	Pittsburgh	10,110	7	11	14.3				1										
Del.	Wilmington	145,000	24	49	22.6	5	3	11	7										
Md.	Baltimore	44,000	3	11	13.0				1										
	District of Columbia	400,000	48	137	17.8	37	2	15	10										
Va.	Norfolk	170,000	32	53	26.1	13	1	1	4										
	Richmond	24,000	5	18	39.1	2	2		4										
S. C.	Charleston	50,000	7	26	16.9	4			1										
Ga.	Savannah	37,000	12	38	34.8	9			3										
	Atlanta	32,656	5	17	25.1	2			1										
Fla.	Jacksonville	41,548	3	7	8.8				1										
Ala.	Mobile	10,000	1	3	15.6				1										
Miss.	Vienna	40,000	5	14	18.2	2			1										
	Columbus	15,000	2	5	17.3				1										
La.	New Orleans	3,300	1	9	8.8				1										
Ark.	Shreveport	210,000	36	110	27.3				1										
Lt.	Little Rock	7,000	1	2	14.9				1										
Tenn.	Nashville	22,000	1	4	9.5				1										
Ohio.	Cincinnati	27,000	7	18	34.6	2			1										
	Cleveland	280,000	38	102	19.0	13	2	4	13										
	Dayton	175,000	23	54	16.1	6			10										
	Gallipolis	39,000	7	18	24.1	1			3										
Mich.	Port Huron	5,500	1	1	9.5				1										
Ind.	Evansville	8,190	1	1	6.4				1										
	Indianapolis	37,500	9	24	12.5	1			1										
Ill.	Chicago	37,000	13	24	12.9				1										
	Peoria	27,000	11	24	14.5	3	21		34										
	Quincy	357,624	80	159	13.4	1			17										
Wis.	Milwaukee	10,000	3	7	31.1				1										
Minn.	St. Paul	35,000	3	9	13.4				1										
Iowa	Dubuque	121,000	15	38	16.0	1			1										
	Keokuk	34,000	3	8	8.1				1										
Mo.	St. Louis	30,000	2	7	12.2				1										
	Kansas City	30,000	1	5	8.7				2										
	Keokuk	15,000	3	3	10.1				1										
Nebr.	Omaha	500,000	35	110	11.5	3	13	2	5										
Cal.	San Francisco	64,000	3	13	11.1				6										
	Vallejo	30,000	1	2	3.5				1										
	Totals	7,787,656	1,032	2,847	19.0	10	412	72	176	11	373	21	21	25	100	6	64	16	

* Baltimore has 343,715 white, 56,285 colored; deaths, 106 white, 31 colored. Rate per 1,000 white, 15.9; colored, 25.4. District of Columbia has 114,000 white, 56,000 colored; deaths, 4 white, 37 colored; rate per 1,000 white, 24.5; colored, 34.5. Norfolk has 110,571 white, 2,913 colored; deaths, 10 white, 8 colored. Rate per 1,000 white, 37.0; colored, 42.1. Richmond has 16,000 white, 31,000 colored; deaths, 2 white, 18 colored. Rate per 1,000 white, 9.1; colored, 27.6. Charleston has 25,000 white, 32,000 colored; deaths, 13 white, 25 colored. Rate per 1,000 white, 27.1; colored, 40.7. Savannah has 17,393 white, 15,163 colored; deaths, 3 white, 14 colored. Rate per 1,000 white, 2.9; colored, 48.1. Atlanta has 25,353 white, 16,175 colored; deaths, 3 white, 1 colored. Rate per 1,000 white, 6.1; colored, 12.9. New Orleans has 155,000 white, 55,000 colored; deaths, 16 white, 31 colored. Rate per 1,000 white, 25.6; colored, 22. Nashville has 17,555 white, 9,500 colored; deaths, 8 white, 10 colored. Rate per 1,000 white, 24.7; colored, 24.7.

The following reports, for the week ending January 3, are from places requiring burial permits and having less than 5,000 population:

Edgartown, Mass., population 1,700; two deaths from old age. Murfreesboro, Tenn., 4,000; one death, under 5 years. Nantucket, Mass., 3,000; two deaths; old age 1, cancer 1. Shelbyville, Tenn., 2,000; one death from peritonitis. Total population, 10,700; total deaths, 6; under 5 years, 1; rate per 1,000, 29.2.

The following reports, for the week ending January 3, are from places in which burial permits are not required:

Allegheny, Pa., population 75,000; deaths, 16; under 5 years, 6; croup 1, typhoid fever 1. Bath, Me., 10,000; deaths, 3; typhoid fever 1. Battle Creek, Mich., 7,500; deaths, 2. Bridgeton, N. J., 8,000; no deaths. Calais, Me., 7,000; consumption 1, pneumonia 1. Carrollton, Miss., 600; no deaths. Clinton, Mich., 1,000; no deaths. Columbus, Ga., 10,000; deaths, 4; consumption 2. Crystal Springs, Miss., 1,000; one death. Fayette, Miss., 300; no deaths. Gunn City, Mo., 125; consumption 1. Indianola, Tex., 300; no deaths. Iuka, Miss., 1,000; no deaths. Madison, Ind., 12,000; deaths, 4; under 5 years, 2; croup 1, pneumonia 1. Mansfield, Ohio, 11,000; deaths, 2; under 5 years, 1. Mount Pleasant, Iowa, 5,000; two deaths. Niles, Mich., 1,630; pneumonia 1. Painesville, Ohio, 5,000; deaths, 2; malarial fever 1. Ripley, Miss., 1,000; no deaths. Starkville, Miss., 1,163; no deaths. Tuscaloosa, Ala., 4,000; deaths, 2; typhoid fever 1. Waterbury, Conn., 16,000; deaths, 4; under 5 years, 1. Wesson, Miss., 2,000; no deaths. Winona, Minn., 11,786; two deaths. Youngstown, Ohio, 17,000; deaths, 2; typhoid fever, 2. Louisiana, Mo., 5,000; no deaths. Total population, 215,204; total deaths, 51; under 5 years, 10.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending January 3 represent a total population of 7,789,686; the number of deaths being 2,847, the annual rate of mortality is 19.0 per 1,000, having been 17.9 the week previous. With this increase in the general death-rate the mortality under 5 years has relatively decreased, being now 36.3, as compared with 38.3 per cent. for last week. No marked change has occurred in the distribution of zymotic diseases, and *scarlet fever* is the only one now

increasing. The eastern cities, from Providence to Baltimore, both included, report more than half of the deaths from this disease, the two cities named giving 27 out of the 100 deaths. Most of the remainder occurred in Pennsylvania, Ohio, and Illinois. *Measles* are limited, as before, almost entirely to two centers, New York and Brooklyn, and Chicago; these cities report 21 of the 24 deaths. *Diphtheria* and *croup* have decreased from 6.63 to 6.18 per cent. of the total mortality, and are still reported chiefly from the cities north of the Potomac and Ohio Rivers, and from Boston to Chicago. *Typhoid fever*, which last week caused 51 deaths, gives 64 deaths this week in a smaller aggregate population, showing an increase from 1.55 to 2.25 per cent. of all deaths; Boston, Philadelphia, and Cincinnati report 25 of the 64 deaths, and the remainder are mostly distributed as described under *diphtheria*. *Consumption* and *acute lung diseases*, giving a total of 785 deaths, as compared with 743 for the larger population represented last week, are increasing in fatality with the advance of winter. A change is also to be noted in the distribution of deaths, which last month showed in favor of the New England States, as compared with the chief cities of the South. This week a total population of 1,042,289 in 9 southern cities gives 98 deaths, while 29 are reported in a population of 856,134 in New England. The change is to be ascribed to the more sudden and extreme changes of temperature at the North; the relative mortality from the two diseases remains about the same, having been 27.1 last week and representing this week 27.5 per cent. of total deaths. *Small-pox* still prevails in the three cities in which it appeared, in the following order: Philadelphia, Washington, and Chicago this week. Cases are reported in Baltimore; if the report is correct, this city is the fourth in order of invasion since the appearance of the disease in November.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortuary reports.

Monthly report of mortality in cities of the United States.

Places.	Month.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Heart-lung diseases.	Diphtheria and croup.	Erysipelas.	Kidney diseases.	Lung disease, acute.	Malarial fevers.	Measles.	Puerperal diseases.	Scarlet fever.	Small-pox.	Typhoid and typhoid fevers.	Whooping-cough.	Yellow fever.
1879.																				
Burlington, Vt.	November	16,500	11	20	11.4	.....	3	1	2	.....	1	1	2	.....	.....	.....	.....	.....	.....	.....
Burlington, Vt.	December	16,500	9	39	11.4	.....	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chattanooga, Tenn.	November	12,000	11	24	23.0	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill.	December	547,624	152	579	17.5	.....	1	68	14	15	6	11	91	21	6	13	1	20	3	.....
Columbia, S. C.	November	11,300	3	12	12.5	.....	2	.....	1	.....	1	2	1	.....	.....	.....	.....	.....	.....	.....
Columbia, S. C.	December	11,300	6	5	7.4	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
District of Columbia	November	170,000	977	197	.....	.....	55	.....	16	.....	1	11	1	.....	.....	.....	.....	.....	.....	.....
Dunkirk, N. Y.	December	7,214	1	13	23.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elmira, N. Y.	do	29,136	8	31	18.2	.....	3	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson County, New Jersey	November	100,000	.....	418	.....	.....	38	9	31	.....	.....	23	3	1	.....	1	21	.....	4	3
Kookin, Iowa	December	15,000	5	17	14.6	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Knoxville, Tenn.	Sept. mber	16,100	12	23	16.8	.....	1	4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Knoxville, Tenn.	October	16,100	9	19	14.9	.....	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Knoxville, Tenn.	November	16,100	8	29	14.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Haven, Conn.	December	60,000	1	76	15.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minneapolis, Minn.	November	52,000	23	55	12.7	.....	9	2	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minneapolis, Minn.	December	52,000	24	59	13.6	.....	.....	.....	11	.....	.....	2	12	.....	.....	.....	.....	.....	.....	.....
Norfolk, Va.	do	24,000	22	64	12.6	.....	12	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paterson, N. J.	November	49,000	14	.....	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paterson, N. J.	December	49,000	15	57	26.1	.....	18	1	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Richmond, Ind.	November	14,000	8	14	14.1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saint Paul, Minn.	do	54,000	11	29	6.8	.....	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shelby County, Tennessee	December	15,000	6	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Ohio	November	60,000	20	11	8.2	.....	3	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vineland, N. J.	December	8,500	1	8	12.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wilmington, Del.	do	14,000	1	60	16.4	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	.....	1,511,474	716	2,251	17.5	.....	3	281	61	291	8	31	29	10	15	59	1	61	17	.....

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
			1870-80.									
Vancouver's Island.	Victoria.	5,000	Dec. 27	2	20.8							30.0
Canada.	Montreal.	135,000	Jan. 3	59	16.4							15.2
Do.	St. John's.	5,000	Jan. 3	1	4.0							18.0
Do.	Charlottetown.	12,000	Dec. 27	1	4.3							3.9
Bermuda.	Hamilton.	14,867	Dec. 30	1	3.5							70.3
Do.	do.	14,867	Jan. 6	1	3.5							68.1
Turk's and Caicos Islands.	do.	3,500	Nov. 29	2	29.8							80.0
Do.	do.	3,500	Dec. 6	1	14.9							80.0
Do.	do.	5,000	Dec. 13	1	14.9							78.0
Do.	do.	3,500	Dec. 20	2	20.8							78.0
Do.	do.	3,500	Dec. 27	3	41.7							76.0
Do.	do.	3,500	Jan. 3	3	41.7							
Do.	do.	7,500	Nov. 15	6	41.7							
Do.	do.	7,500	Nov. 22	10	69.5							
Do.	do.	7,500	Nov. 29	3	20.8							
Do.	do.	7,500	Dec. 6	8	55.6							
Do.	do.	7,500	Dec. 13	7	47.9							
Do.	do.	7,500	Dec. 20	4	27.8							
Do.	do.	7,500	Dec. 27	6	41.7							
Do.	do.	7,500	Jan. 3	5	34.7							
Do.	do.	195,437	Dec. 27	113	30.1							75.0
Cuba.	Havana.	16,610	Dec. 13	11	34.5							68.2
Teneriffe.	San'ta Cruz.	16,610	Dec. 20	14	34.5							43.0
Do.	do.	212,000	Dec. 20	141	34.7							38.0
Ireland.	Belfast.	57,000	Dec. 20	29	26.5							38.7
Scotland.	Glasgow.	150,923	Dec. 20	78	36.9							37.7
Do.	Liverpool.	538,338	Dec. 27	367	45.5							23.0
England.	Bristol.	210,000	Dec. 20	177	44.0							39.0
Do.	Newcastle on Tyne.	146,948	Dec. 20	74	26.3							32.7
Do.	London.	3,630,868	Dec. 20	1,204	31.7							36.5
Do.	do.	92,068	Dec. 20	30	22.1							42.4
France.	Paris.	104,902	Dec. 27	89	40.8							50.9
Do.	Rouen.	1,088,806	Dec. 1	1,206	34.2							
Do.	Lyons.	342,815	Dec. 13	190	24.9							28.0
Do.	Zurich.	22,008	Dec. 20	208	35.1							29.4
Switzerland.	Amsterdam.	147,000	Dec. 20	104	36.9							18.0
Holland.	Rotterdam.	215,340	Dec. 13	77	18.6							21.7
Do.	Dresden.	145,719	Dec. 20	67	24.0							19.5
Saxony.	Leipsic.	145,719	Dec. 27	67	24.0							12.0
Do.	do.	89,000	Dec. 13	29	17.0							12.6
Do.	Chemnitz.	90,000	Dec. 13	44	34.9							22.3
Bavaria.	Munich.	105,000	Dec. 13	47	35.3							27.0
Germany.	Bremen.	132,000	Dec. 13	9	37.2							35.0
Do.	Frankfurt.	1,062,000	Dec. 13	496	37.2							12.2
Do.	Breslau.	270,000	Dec. 13	134	26.6							13.5
Do.	do.	48,000	Dec. 20	21	22.8							11.5
Do.	Mannheim.	48,000	Dec. 27	31	33.7							3
Do.	do.	93,000	Dec. 20	42	45.6							29.1
Do.	Copenhagen.	225,000	Dec. 16	139	29.9							39.4
Denmark.	do.	97,850	Dec. 27	65	34.6							41.7
Italy.	Leghorn.	97,850	Dec. 27	65	34.6							64.4
Do.	do.	219,398	Oct. 19	75	17.7							1
Sicily.	Palerino.	219,398	Oct. 26	71	16.8							1
Do.	do.	219,398	Nov. 2	82	19.4							1
Do.	do.	219,398	Nov. 9	91	21.5							1
Do.	do.	219,398	Nov. 16	85	20.1							1
Do.	do.	219,398	Nov. 23	98	23.2							1
Do.	do.	219,398	Nov. 30	68	16.1							1
Do.	do.	219,398	Dec. 7	108	44.0							1
Austria.	Trieste.	737,285	Dec. 6	384	27.1							36
Do.	Vienna.	737,285	Dec. 13	375	26.5							30.0
Do.	do.	737,285	Dec. 20	409	25.3							18.8
Do.	do.	737,285	Dec. 27	393	34.2							37
Do.	Buda Pesth.	309,705	Nov. 2	203	34.2							14.9
Do.	do.	336,703	Dec. 13	175	27.1							6.5
Russian Poland.	Warsaw.	163,429	Dec. 6	70	21.5							10.1
Sweden.	Stockholm.	169,429	Dec. 13	71	21.2							22.1
Do.	do.	113,900	Dec. 13	40	18.5							12
Norway.	Christiania.	115,882	Dec. 13	21	36.4							65.2
Spain.	Madrid.	15,000	Nov. 15	10	34.8							65.2
Do.	Tanger.	15,000	Nov. 22	8	25.4							63.1
Morocco.	do.	15,000	Nov. 29	12	41.7							64.0
Do.	do.	15,000	Dec. 6	6	20.8							75.0
Do.	do.	35,000	Dec. 1	21	31.8							73.0
Cape Colony.	Cape Town.	35,000	Dec. 8	21	31.8							73.5
Do.	do.	64,710	Nov. 16	40	32.2							73.5
Mauritius.	Port Louis.	64,710	Nov. 23	46	37.0							75.1
Do.	do.	64,710	Nov. 30	35	28.2							75.1
Do.	do.	64,710	Dec. 7	41	35.4							77.0
Do.	do.	16,000	Nov. 7	3	15.6							70.0
Egypt.	Port Said.	16,000	Nov. 15	1	5.2							68.0
Do.	do.	16,000	Nov. 22	1	5.2							65.0
Do.	do.	16,000	Nov. 29	1	5.2							65.0
Do.	do.	16,000	Dec. 6	2	10.4							65.0
Do.	do.	16,000	Dec. 13	1	5.2							65.0
Do.	do.	16,000	Dec. 20	1	5.2							65.0

*Hospitals only.

SMALL-POX IN THE DISTRICT OF COLUMBIA.

Dr. S. TOWNSHEND, health officer, makes the following report for the week ending January 10:

During the week ending January 10 there were 11 new cases of small-pox reported, making a total of 32 cases since November 20, 1879, date of first report. Of this number 5 were white, 6 colored, 5 males, and 6 females. Three deaths occurred, 2 of colored persons, and 1 white. Of the 11 new cases 7 are reported on premises where the disease has previously existed, and 4 in other localities. Removal to hospital was only considered necessary in 1 case, and the other 10 are isolated in their houses. Two of the 11 persons attacked had never been vaccinated; 1 not since infancy; 4 not within five years, and the other 2 only after having become infected. The character of disease as classified shows 4 cases of varioloid, 2 of distinct variola, and 5 confluent small-pox. Three of the 11 cases in houses not previously infected are in the locality where the disease has been prevailing, namely, the southeastern section, and the fourth on H street, between Second and Third streets, N.W. The only case where we can obtain any evidence of contagion is that of a man at 1352 E street, S. E. He is a restaurant keeper, and states that about twelve or fourteen days previous to his being taken with the disease a "tramp" came into his place and took a seat by the fire. He seemed drowsy and a peculiar odor was emitted from his clothing, which odor he states was exactly the same as that thrown off from his own body when the fever came on. Considerable difficulty was experienced in getting rid of the tramp, and it is probable that he may have been suffering from an attack of varioloid.

The work of vaccinating the poor is proceeding very satisfactorily, something over six thousand having been vaccinated up to date.

ABSTRACTS FROM CONSULAR REPORTS.

CANTON, CHINA.—F. D. Cheshire, vice-consul in charge, sends the following report, under date of October 30, 1879:

My reports from this city will have but little value as regards the preventing of the introduction of contagious diseases into the United States, from the fact that vessels very seldom land within this consular district bound direct for the United States. Most of the cargo shipped here is carried by river steamers to Hong-Kong, and then transhipped to vessels loading for foreign ports. It will be impossible to obtain any reliable information from the Chinese officials, as they do not keep any record or publish any official reports, except those connected with the Chinese Imperial maritime custom service.

CANTON, CHINA.—U. S. Vice-Consul F. D. Cheshire forwards partial reports for the weeks ending November 15, 22, and 29. The mean temperature for the three weeks was about 76°; and the prevailing diseases were malarial fevers and dysentery, as previously reported. Urinary calculus is noted as being very common.

NINGPO, CHINA.—U. S. Consul Edward C. Lord sends reports for the weeks ending November 15, 22, and 29, but can add nothing of importance to the information given in previous reports. No data can be obtained for reporting the mortality, and the population is only roughly estimated at 300,000. Most of the zymotic diseases are usually present among the natives, but no epidemic prevails at this time.

HANKOW, CHINA.—U. S. Consul I. T. Shepard, in his report of November 22, 1879, estimates the population of this city at 750,000, of which not more than 100 are permanent residents of foreign birth. No American vessels have visited the port for several years, though cattle are brought from America to points between Hankow and Shanghai. For a native city, the general sanitary condition is good. Small-pox is always present, but seldom prevails as an epidemic.

SWATOW, CHINA.—U. S. Consular Agent C. C. Williams reports, under date of November 15, that no records of

mortality among the natives can be obtained. No deaths had occurred during the week ending November 15 among the foreign residents, most of whom have houses in the country, to which they go when any dangerous disease appears in the town. Bad drainage and other unsanitary conditions cause much malarial fever and dysentery. Leprosy, in various forms, is common throughout the district. A central gutter carries a stream of foul water through the middle of each principal street, forming stagnant pools in some places. The native population is estimated at 26,000. The people live in closely-crowded small houses, badly ventilated, and rendered still more unwholesome by the use of open charcoal fires.

ST. THOMAS, WEST INDIES.—U. S. Consul V. V. Smith sends a report of 15 deaths in a population of 15,000, for the two weeks ending December 15, 1879, being at the annual rate of 26 per 1,000. Mean temperature for the month, 76°; sanitary condition good, and no contagious disease prevailing.

BATAVIA, JAVA.—November 22, 1879, United States Consul O. Hatfield reports that "a slight fever known as *Jaca* has attacked the crews of several vessels, but no fatal cases have occurred." The disease is supposed to be of malarial origin, and is not contagious. The rainy season was just beginning, and the mean temperature very high, being 91.5° Fahrenheit. No record of deaths can be obtained.

BUENOS AYRES.—United States Consul E. L. Baker reports 654 deaths for the month of October, 1879, in a population estimated at 250,000, being at the annual rate of 31.4 per 1,000. Small-pox caused 28 deaths, typhoid fever 6, and scarlet fever 5. The small-pox was said to have been introduced by some captive Indians, sent in from the frontier. In the month of November 632 deaths were reported, the annual rate being 30.3 per 1,000. Small-pox had increased, causing 61 deaths; typhoid fever 18, and diphtheria 13. Mean temperature for the month, 76°. The alarm caused by the case of yellow fever (reported in the BULLETIN) had been beneficial in leading to a thorough cleaning of the city.

BUENOS AYRES.—November 28, United States Consul E. L. Baker reports as follows:

The quarantine of fifteen days imposed on vessels from ports infected with yellow fever, and announced in my letter of November 21, has been modified so as to reckon the time from the date of clearing from such ports. But all vessels coming from the Antilles, or from the southern ports of the United States, are quarantined for three days, though the voyage requires more than fifteen days. Since the single case of yellow fever previously reported, no other has occurred, and every precaution has been taken to prevent the introduction or spread of the disease. Under these circumstances, I give a clean bill of health to the bark *Sammel B. Hall*, of Portland, which clears to-day for Boston.

SYDNEY, AUSTRALIA.—November 26, 1879, United States Consul J. H. Williams makes the following report:

The population of Sydney and its suburbs is about 120,000; there is a voluntary health association, and the authorities keep records of births, deaths, and marriages, but there are no statistics of disease. Asiatic cholera and yellow fever are not known here. Sporadic cases of small-pox have occurred from imported contagion, but the disease

has never spread, and probably not more than six cases have appeared in the last ten years. Scarlet fever prevails every winter, and is quite fatal among children; measles, also, are occasionally epidemic.

JACMEL, HAITI.—December 1, 1879. United States Consular Agent A. H. Lazare makes the following report:

No reliable statistics can be obtained here. When a death occurs the authorities are informed and a permit for burial is granted without requiring the cause of death to be stated. The town has a population of 7,500, and is considered one of the healthiest ports in Haiti. Epidemic diseases rarely occur here. During last summer there were a few cases of yellow-fever on vessels in this harbor, but it is presumed that the infection was brought here from other ports, as it never spread in the city.

BATAVIA, JAVA.—November 22, 1879. United States Consul O. Hattfield makes the following report:

Small-pox has broken out at a native village some distance from the city, but the prompt measures taken by the authorities have effectually prevented its spread. Forty two persons, all natives, were attacked in the course of two days; seven died; the rest have recovered or are reported convalescent. The general health of this city is good, and no contagious disease is known to exist here at present.

LAMBAYEQUE, PERU.—United States Consul S. C. Montjoy makes the following report, December 1, 1879:

No sanitary statistics are kept in the cities and towns of this consular district, and private information from practicing physicians is the only source of data for reports. The various forms of malarial fever are the prevailing diseases here, and consumption is not rare. Small-pox is never absent, and becomes epidemic every few years, though vaccination is practiced weekly by the government physicians. Yellow fever, in a mild form, was epidemic in 1856, and again in 1868, when it proved very fatal to foreigners and people from the interior; a few sporadic cases occur every year. Asiatic cholera and diphtheria are unknown here, and croup is very rare; whooping cough has been mildly epidemic during the past year. Consumption is here regarded as curable when taken in time, by a residence in any of the neighboring mountain towns, at an elevation of from 6,000 to 10,000 feet. The sanitary regulations are limited to carrying away the dry rubbish of the streets. Excrements are thrown into the back yards, or *corrales*, where the sun soon reduces them to a dry and odorless mass. A very slight rainfall in March or April is rather the exception, the rule being the absence of rain during the whole year. All agriculture requires artificial irrigation, the water being led from mountain streams. The supply for domestic use is brought in barrels, on the backs of donkeys or in carts. The annual range of the thermometer is only between 70° and 88° Fahrenheit.

SABANILLA, UNITED STATES OF COLOMBIA.—United States Consul E. P. Pellet sends the following report, under date of December 10, 1879:

On the 30th of September I reported that small-pox had appeared in Baranquilla, and that it was deemed unsafe to grant clean bills of health. October 5, I and other consuls resumed the issue of clean bills, finding that the reports were greatly exaggerated.

About the middle of October a young Greek, lately arrived in this city, was taken with a fever which proved an undoubted case of yellow fever. This is the first appearance of the disease during the fourteen years of my residence here. A few days after the appearance of the case above noted, an American was attacked and died of black vomit. Six other deaths followed, all persons lately arrived from abroad or from the interior; every case that occurred proved fatal. No new case has appeared in the last ten days, but I do not yet feel justified in giving clean bills of health, which were suspended from the appearance of the first case.

The first introduction of small-pox here was undoubtedly from Cuba by vessels in the cattle trade. Last year when small pox and yellow fever pervaded nearly all the ports of Cuba, we were in daily communication with them. There are no quarantine regulations, and in reply to my representations of the danger incurred, the governor stated that no such abridgment of the liberty of citizens could be allowed here. The sanitary conditions of the place are naturally most favorable, but out of a population of nearly 20,000 not more than 5,000 can be said to have medical attention when ill. The remainder, known as *gente del pueblo*, or common people, fall sick, sleep on the ground in their huts, have, perhaps, no medicine and little care, and die as a rule—recovering from serious illness being the exception. But as regards contagious or infectious diseases, Baranquilla is an unusually healthy port.

TUNIS, NORTH AFRICA.—United States Consul G. W. Fish gives the following report of this city, under date of December 12, 1879:

I have received the circulars and Bulletins sent out by the National Board of Health, and have been interested in perusing the latter, and regret my inability to contribute something from this distant part of the world to the valuable fund of statistics which the Board of Health is furnishing. The Regency of Tunis, bounded north and east by the Mediterranean Sea, south by the Great Desert, and west by Algiers, lying between latitudes 31° 10' and 37° 12' north, and longitudes 7° 15' and 11° 33' east, is said to contain a land area of about eighty thousand square miles, and has a present (estimated) population of from one and a half to two millions. Tunis is the most important city, and has a population of from one hundred and thirty to one hundred and fifty thousand, made up as follows: Thirty thousand Jews, from twelve to fifteen thousand Christians, so called, and the remainder are all Mohammedans, a made up of Arabs, Moors, and negroes. The city is of great antiquity, and is, perhaps, the most distinctively oriental town in the world at the present time. The portion of the city known as the Arab quarter is well policed, and is kept reasonably clean, while the Jewish and (so-called) Christian quarters are often exceedingly dirty. There is no plan of collecting and reporting vital statistics, and no record is kept from which a correct estimate can be compiled, embracing the nature of prevailing diseases and the percentage of deaths.

A sanitary commission has been organized, of which all the foreign consuls residing in Tunis are members, and each in his turn serves as president for a period of six months, the writer of this being at this time president. The Tunisian Government is represented on the commission by the prime minister, the minister of foreign affairs, the president of the municipal council of Tunis, a medical officer appointed by the bey, a permanent secretary, and an interpreter. Each port of entry, and all the large towns of the regency, have a sanitary agent, who is nominated by the commission and commissioned by the bey, whose duty it is to examine all cases of sickness where there is reason to fear contagion or infection, and report all such cases to the president of the commission. The city of Tunis is noted for its dry, healthful, and salubrious climate. It has a system of sewerage which, if kept in good repair, ought to make it one of the most healthy cities in the world. We have been for a long time almost singularly free from yellow fever, cholera, small-pox, and the plague. But I find that at certain seasons of the year diseases are apt to assume a typhoid type and prove obstinate, and not unfrequently fatal. Several cases of fatal diphtheria among young people have come to my knowledge within the last year, as well as typhoid fevers and cases of typhoid pneumonia, all of which are exceedingly obstinate and of fatal tendency from the beginning. At the last meeting of the sanitary commission, held in November, an attempt was made by the consuls to inaugurate a system of reports of cases of sickness and deaths, and a plan of vital statistics, with a complete mortality record, which was opposed by the native Arab members of the commission. We hope, however, to overcome this opposition, and ere long to be able to report the vital and mortality statistics of this most interesting and almost unknown country.

REPORTS FROM CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

ELMIRA, N. Y.—Under date of January 7, Dr. H. D. Wey reports that the only board of health in that city is the common council, which has power to resolve itself into such a board, with the mayor as president *ex officio*. Under existing circumstances only monthly reports can be made, as the data are collected from the records kept at the different remedies.

GUNN CITY, MO.—January 2, 1880, Dr. H. D. Gilliland makes the following report:

This town has only about 450 inhabitants, and, with the exception of malarial fevers, the general health of the community is good; no epidemic disease has prevailed here since the cholera of 1865. The healthful condition of the place is not due to any sanitary measures or precautions on the part of the town authorities, and there are many nuisances which I have endeavored in vain to have removed. In the absence of legislation, it is almost impossible to secure any organized attention to sanitary measures or regular reports of mortality from physicians.

LA SALLE, ILL.—December 20, 1879, Dr. F. Clendinning makes the following report:

Our city, of 10,000 inhabitants, is well situated for drainage, the ground sloping toward the Illinois River on the south. We have

good onlinances as to privies, &c., but they have only recently been disinfected. The population is largely foreign, and not generally disposed to adopt active measures of sanitation. A few cases of scarlet fever and diphtheria, in November, were confined to the German and Polish people in the worst drained part of the town. The requirement of burial permits will be urged upon the city council at its meeting next month.

SALEM, FAUQUIER CO., VA.—December 24, 1879, Dr. F. Horner, jr., makes the following report of the diseases of this region:

This country lies in the "Piedmont" section, between tide-water and the Blue Ridge Mountains, and is noted for the healthfulness of its climate and the vigor of its inhabitants. Springs are abundant, many of them well known as possessing valuable medicinal qualities. Among the zymotic diseases, typhoid fever appears yearly in autumn and winter, but is generally absent during the summer; this disease is here regarded as infectious to such extent as to suspend all social intercourse with any family in which it is known to exist. Diphtheria and scarlet fever are rare visitations, and have not been epidemic here since the war.

RED WING, MINN., January 10.—Dr. Charles N. Hewitt, referring to the order in which the States are named on page 207 of the *REPORTS*, observes that Minnesota preceded Michigan in the organization of a State board of health. He gives the following dates for the several States referred to: California, April 24, 1870; Virginia, May 1872; Minnesota, March 26, 1872; and Michigan, July 30, 1873.

BURLINGTON, VT.—January 10, 1880, Dr. George M. Ockford writes as follows:

The city has been in quite a healthy condition during the month ending January 10. There have been no epidemic or contagious diseases, excepting an occasional case of measles. A number of cases of congestion of the lungs following measles, as well as pneumonia and bronchitis, have occurred. Catarrh has been prevalent, with a tendency to diarrhoea as a secondary condition.

From the report of the health officer we find that zymotic diseases caused 23.5 per cent. of all deaths from known causes in 1879. Diphtheria was the leading disease, having caused 22 deaths; cholera infantum caused 15, measles 3, and typhoid fever 2 deaths. There is no doubt that many cases of zymotic disease that occurred during the past year could have been prevented by a proper system of quarantine and sanitary measures. We need a State board of health, as well as local organizations with adequate powers. It is well known that nuisances exist in the city and that the health officer has repeatedly called the attention of the city authorities to the necessity of abating them; but without adequate power to enforce his recommendations, a most efficient and capable officer is thwarted in his efforts to promote sanitary reform. The legislature does not meet this year; but next year the question of a State board will no doubt be presented, as it has been in years past. Biennial sanitary or other scientific reforms, to wake up to the necessity of sanitary or other scientific reforms. Nearly every session is marked from among the farming population, who elected in many instances for their notions of political economy and are extremely conservative in the wants of growing cities and towns. Another source of opposition has existed among many members of the medical profession; but we must ascribe their action to the same causes that prompt the legislators to reject bills for health boards—*dammant quod non intelligunt*; and we have only to hope that they may have more light in the future.

MISCELLANEOUS.

STEUBENVILLE, OHIO.—Mr. John Irwin, mayor of the city, reports under date of January 6 that there is no provision for collecting and reporting vital statistics or returns of mortality. No other information than the number of interments can at present be furnished.

HAVANA, CUBA.—Advises to January 1 state that during the month of December there were 13 deaths from yellow fever, of which 5 occurred in the last week of the month.

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Balch, G. B., M. D.	Yonkers, New York.
Bell, George W., M. D.	Tallahassee, Florida.
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Evans, G. M., M. D.	Madison City, Mississippi.
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Young, B. S., M. D.	

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STEPHEN SMITH, M. D., &c., 31 West 43d street, New York.	
THOMAS J. TURNER, M. D., U. S. N., 1237 M st., N. W., Washington, D. C.	
TULLIO S. YERGEN, M. D., &c., 815 14th st. N. W., Washington, D. C.	

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JANUARY 24, 1880.

[No. 30.]

DISINFECTANTS.

Experiments with disinfectants, continued, by George M. Sternberg, Surgeon United States Army, by order of the National Board of Health.

The following vaccination experiments have been made with the assistance of Dr. Smith Townshend, Health Officer of the District of Columbia, and his assistant, Dr. George C. Samson. The latter gentleman made the vaccinations and reported the results, which have been verified in nearly every case by Dr. Sternberg; points and quills charged with fresh animal virus were used. The experiments have all been made upon unvaccinated children in public institutions in Washington City, and in every case points from the same lot, not treated with the disinfectant, have been used for comparison, the vaccination with these being made in the right arm, and with the disinfected points in the left.

Experiment No. 27, January 2, 1880.—Three children vaccinated from quills exposed for four hours in air-chamber, (capacity 646 cubic inches, description in BULLETIN No. 29,) to SO_2 produced by burning 5 grains sulphur (equal to 24 volumes SO_2 per 100). Quills Nos. 1 and 2 were exposed dry. No. 3 was slightly moistened with water before exposure. *Result:* Vaccination in right arm successful, and in left arm entirely negative in every case.

Experiment No. 28, January 2.—Five children vaccinated from points exposed in air-chamber for four hours to SO_2 , produced by burning 5 grains of sulphur (1 per cent. of SO_2). *Result:* Vaccination completely successful in right arm, and entirely negative result in left arm.

Experiment No. 29, January 2.—Five children vaccinated from points exposed in air-chamber for four hours to SO_2 , produced by burning 1 grain sulphur. Atmosphere charged with moisture by boiling water in test-tube communicating with air-chamber by bent tube passing through perforated cork. *Result:* Success in every case in right arm, and negative result in left.

Experiment No. 30, January 7.—Five children vaccinated from points exposed for 12 hours to SO_2 , produced by burning $\frac{1}{2}$ grain sulphur in air-chamber (dry). *Result:* Four successful in right arm and not in left. One successful in both arms. *Remarks:* It is evident that the limit of safety as to quantity of SO_2 required for destroying the infection of small-pox in a dry atmosphere has been passed in this experiment, as successful vaccination was practiced with a point exposed for twelve hours to the action of the disinfectant. The fact that the vaccination was successful with only one point out of five in this experiment, and that negative results were obtained in every case where a larger quantity of sulphur was used, indicates that the quantity is not much below that required to accomplish the required result, and it is believed that double this quantity, or 1 grain for a space of 646 cubic inches, may be adopted as a safe standard in disinfection by this agent, when the time of exposure is at least twelve hours. This would be a little less than 3 grains for each cubic foot of air space. When the atmosphere is saturated with moisture it is probable that a smaller quantity might be efficient, and the following experiment indicates that this is the case.

Experiment No. 31, January 7.—Vaccinated four children from points exposed for twelve hours to SO_2 , produced by burning one-half grain sulphur in air-chamber; atmosphere saturated with moisture, as in experiment No. 29. *Result:* Successful in every case in right arm, and unsuccessful in left. The results obtained in these experiments, especially those relating to the destruction of the vitality of bacteria, (see bulletin No. 23,) are at variance with those reported by Cameron (Manual of Hygiene, London, 1874, p. 326) who says "simultaneous experiments were made to ascertain the action of sulphurous-acid gas upon bacteria, but this gas was also found to produce but little effect upon these animals." His attention seems to have been chiefly given to experiments with chlorine. My experiments Nos. 1, 7, 10, and 11 show that the burning of one and one-half to three grains of sulphur per cubic foot of air space produces sufficient sulphurous-acid gas to arrest the vital movements of *be tyferum termo* in from one to two minutes. Experiment No. 23 shows that the potency of fresh vaccine lymph is destroyed by exposure for 12 to 14 hours to an atmosphere in which sulphur has been burned in the proportion of less than three-fourths of a grain per cubic foot, when the virus is in a moist state,

rubbed up with glycerine; and the experiments reported above show that in a considerably larger proportion this agent is capable of destroying the potency of fresh animal virus in a dry state upon ivory points.

SMALL-POX IN THE DISTRICT OF COLUMBIA.

Dr. S. TOWNSHEND, Health Officer, makes the following report for the week ending January 17:

During the week ending January 17 there were 20 new cases of small-pox reported in the District of Columbia: 13 whites, 7 colored, 9 males, and 11 females.

The character of the disease, as classified, shows 12 cases of varioloid, 6 cases of distinct and 2 cases of confluent small-pox. Sixteen of the twenty persons had never been successfully vaccinated, two not since infancy, and in the other two cases no satisfactory history of vaccination could be obtained. Only four of the persons attacked were removed to hospitals; the others were isolated in their homes.

The deaths occurred: one in hospital, and the others in homes where isolated. Many of the cases first reported are now convalescent or entirely well, and several have been discharged from hospital quarantine. The disease as recently developed is of a very mild type.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending January 10 represent a population of 8,151,511; the total number of deaths being 2,880, the annual rate of mortality is 18.4, which is about the mean rate for the United States for the past two months, and indicates a decline in some of the principal diseases, as compared with the previous week, when the rate was 19.0. The reduction of the general rate of mortality is not due to consumption and acute lung diseases, which continue to advance as noted last week, when 27.5 per cent. of deaths were due to them, as compared with 27.1 the week before, and 28.7 for the present week. Scarlet fever has notably declined in fatality, though still widely distributed, and prevailing chiefly in Providence, R. I., in Baltimore, and in the States mentioned in the report for last week; the ratio of deaths from this disease, to the total number of deaths, was 3.51 per cent. last week, and 3.16 the present week. A considerable increase in whooping-cough, especially in Pennsylvania, New York, and New England, has advanced the ratio of deaths, under five years, from 36.3 to 36.7 per cent. Measles retain about the same ratio to the general mortality, and continue to prevail in New York and Chicago, the former city reporting 20, and the latter 6 deaths, out of a total of 29 from this disease. No marked change is noted in other diseases, except the increased prevalence of small-pox, which has this week caused 3 deaths in the District of Columbia and 1 in Philadelphia. The newspaper reports of small-pox in Baltimore last week have not been confirmed by any official report, but the correspondents of the BULLETIN announce the appearance of the disease at Worcester, Mass., and at various points in New York and in the Western States.

Since the distribution of the new form of cards adopted by the National Board of Health, 300 cities and towns have reported their relative white and colored populations. Selecting 13 of these, from Boston to New Orleans, an aggregate white population of 1,219,113 gives an annual rate of 19 deaths per 1,000, while a total of 256,265 colored population presents a mortality of 27.4 per 1,000. The reports do not furnish the separate causes of death for the two races, but the relation of race and disease being a point of ethnological interest, the subject will continue to form a part of the notes on these reports. It has already been suggested that the high rate of mortality which evidently prevails among the colored population of the United States, without regard to climate, is chiefly due to a greater liability to consumption and diseases of the lungs in that race.

The following reports for the week ending January 10 are from places requiring burial permits, and having less than 5,000 population:

Brunswick, Ga., population 3,000; no deaths. Edgartown, Mass., 1,700; no deaths. Franklin, Ind., 4,000; 1 death. Murrellsborough, Tenn., 4,000; deaths, 2; malarial fever 1, pneumonia 1. Shelbyville, Tenn., 2,000; no deaths. Total population, 14,700; total deaths, 3; rate per 1,000, 10.6.

The following reports for the week ending January 20 are from places in which burial permits are not required:

Abbeville, Miss., population, 350; no deaths. Allegheny, Pa., 75,000; deaths, 18; under 5 years, 8; consumption, 3; diphtheria 1, scarlet fever 1, typhoid fever 2, lung diseases 3. Bath, Me., 10,000; deaths, 6; under 5 years, 2; consumption 2, diphtheria 1, lung diseases 2, malarial fever 1. Battle Creek, Mich., 7,500; suicide 1. Bay City, Mich., 19,500; deaths 4; under 5 years, 2; consumption 2, diphtheria 3, Beldast, Me., 5,278; deaths, 3; consumption 1, diarrhoea 1. Beloit, Wis., 5,000; diphtheria 1. Brattleboro, Vt., 4,933; pneumonia 1. Calais, Me., 7,000; deaths, 3; diphtheria 1. Carrollton, Miss., 600; no deaths. Chico, Cal., 5,000; consumption 1, lung diseases 2. Clinton, Mich., 1,000; no deaths. Cranston, R. I., 5,688; scarlet fever 1, under 5 years. Crystal Springs, Miss., 1,000; pneumonia 1. Dallas, Tex., 20,000; deaths, 3; lung diseases 2, typhoid fever 1. Deatur, Miss., 1,000; no deaths. Fayette, Miss., 300; no deaths. Ferdinand, Fla., 3,000; deaths, 3; under 5 years, 1. Gann City, Mo., 125; no deaths. Helena, Mont., 3,500; no deaths. Iuka, Miss., 1,000; no deaths. Lansing, Mich., 10,000; deaths, 5; under 5 years, 4; consumption 1, diphtheria 2, scarlet fever 1. La Salle, Ills., 10,000; deaths, 2; consumption 1. Louisiana, Mo., 5,200; deaths, 3; under 5 years, 1; consumption 1, pneumonia 1. Madison, Ind., 12,000; consumption 1. Mansfield, Ohio, 11,000; deaths, 2; diphtheria 1. Marquette, Mich., 3,000; 1 death. Monmouth, Ills., 6,000; pneumonia 1. Monroe, Mich., 5,782; pneumonia 1. Mount Pleasant, Iowa, 5,000; deaths, 5; under 5 years, 1; consumption 1, diphtheria 1. Okolona, Miss., 3,000; no deaths. Orange, N. C., 12,000; deaths 9, diarrhoea 1; lung diseases 4. Palmyra, Ohio, 5,000; deaths 4, lung diseases 2. Pass Christian, Miss., 1 death. Pontotoc, Miss., 600; no deaths. Port Gibson, Miss., 1 death. Portsmouth, Va., 11,000; deaths, 5; under 5 years, 3; consumption 1. Ripley, Miss., 1,000; no deaths. Starkville, Miss., 1,163; no deaths. Tuscaloosa, Ala., 4,000; no deaths. Verona, Miss., 1,000; consumption 1. Waterbury, Conn., 16,000; deaths 4; under 5 years, 1; scarlet fever 1. Water Valley, Miss., 3,500; no deaths. Waynesboro, Miss., 500; no deaths. Weston, Miss., 2,000; consumption 1. West Point, Miss., 2,500; no deaths. Westville, Miss., 125; 1 death. Winona, Minn., 11,750; deaths, 1; under 5 years, 2; diarrhoea 1, lung diseases 1, pericardial fever 1. Youngstown, Ohio, 17,000; deaths, 1; pneumonia 1. Total population, 243,377; total deaths, 106; under 5 years, 26.

ABSTRACTS FROM INSPECTORS' REPORTS.

DR. WIRT JOHNSTON makes the following report of inspection of three places in which yellow fever had occurred during the summer:

HARRISON STATION.—This place is a small village, having a population of only about 100, situated on the Mississippi and Tennessee Railroad, 2½ miles from Grenada, and 72 miles from Memphis. The residences are widely separated. Twelve cases of yellow fever occurred at this place, and were confined to four houses, viz: Morris's, Crow's, Harrington's, and Gowen's. In company with Drs. Wheat and Sherman, the resident physicians, I visited each of these houses. The Morris house had been imperfectly fumigated with sulphurous acid gas, and the bedding that was used by the sick had been burned. Upon entering the house wooden articles of clothing were found hanging in the rooms, and in one room were stained towels that had in all probability been used by the sick. I was informed that no one had entered this room since the departure of the nurses, the house having been vacated immediately after the death of Mr. Crow.

The Harrington house had been imperfectly fumigated. The feather bed that was used by Mr. Harrington when sick, I was informed, had only been washed without removing the feathers.

The house of Gowen was in a much better condition than the others. The room that was occupied by the sick had been well fumigated with burning sulphur; the windows and doors had been well opened and the room exposed to the cold air night and day. One bed that had been used by a patient had been burned; another, a feather bed, was still in use.

Drs. Wheat and Sherman agreed to undertake the work, and it was suggested that all useless articles of clothing, towels, cloths,

&c., used by the sick should be burned; that the entire houses should be thoroughly fumigated with burning sulphur, and that during the first spell of cold weather the windows and doors should be opened and the houses ventilated both during the day and night; that the beds should be opened and their contents exposed during the fumigation, and the ticks subjected to the action of boiling water; that the trunks and boxes should be opened and their contents freely exposed to the sulphur fumes and cold air. I shipped a barrel of sulphur to this point to be used. I should add that the owners of the houses seemed anxious to carry out my directions.

COXSODIA.—As a report of the epidemic at this place has already been made, it is unnecessary to say more than the following: I called on Dr. Pease, president of the board of health, and was informed by him that the bedding and clothing used by the sick in all the houses save one had been destroyed and the houses had been subjected to the fumes of burning sulphur. I have no doubt efficient sanitary work was done at this place during the epidemic under the direction of Dr. Pease and Drs. Craft and Banks, inspectors. Dr. Pease promised that he would at once have the proper measures enforced at the house referred to above. It was suggested that the houses should be thoroughly exposed during the first cold spell of weather. Seven cases of yellow fever and three deaths occurred at this place after the departure of Drs. Craft and Banks.

OAK GROVE.—This place consists of a country store and a few residences widely separated. Eight cases of yellow fever occurred here, all being in one house, Mrs. Bailey's. This house and all articles exposed to the infection had been exposed to the fumes of burning sulphur. The beds that were used by the sick were still in use, and had not been properly disinfected. It was suggested that the ticks be opened, the contents fumigated, and the ticks subjected to the action of boiling water; also, that the house should be well aired during the first spell of cold weather.

MISCELLANEOUS.

MONTREAL, CANADA.—Dr. A. B. Larocque, health officer, sends reports of mortality for the months of August, September, and October, 1879. The totals of deaths for the three months respectively were: 378, 293, and 246; and the deaths under five years, 263, 175, and 111; for the three months there were 917 deaths, of which 579 were under five years. Small-pox caused 116 deaths; typhoid fever, 23; diphtheria, 26; scarlet fever, 5; and diarrhoeal diseases, 143. Of the latter, 22 deaths occurred in the month of August, 37 in September, and 18 in October. There were 72 deaths from consumption, being 7.8 per cent. of the total mortality, while the 52 deaths from other lung diseases represent only 5.6 per cent. These proportions are about one-half of the ratio of deaths from these diseases in the United States. The population being 135,000, the annual rate of mortality was 27.2 per 1,000; the mean annual rate for cities of the United States for the same period was about 19.3 per 1,000.

JEFFERSON BARRACKS, MISSOURI.—Under date of January 15, Surgeon Edward P. Vollum, United States Army, gives a detailed account of the case of supposed yellow fever occurring at that post in October, in the person of Morcier, a musician. Dr. Vollum concludes that the case was one of malarial fever, with typhoid complication, and that vomiting of blood, altered by effusion into the stomach, led to the belief that the case was one of yellow fever.

HAVANA, CUBA.—Advises to January 17 state that during the week ending on that day there were but two deaths from yellow fever in this city.

NOTE.—On the new cards for reports of mortality, adopted by the National Board of Health, *corbrospinal fever* and *erysipelas* are omitted. The reports of deaths from those diseases for the week ending January 10, are but partial, being made only by places sending the old form of reports.

NOTE.—On the cards for hospital reports the blanks should be filled as follows: After the word *name* insert the name of the *hospital*; after *place*, the name of the city and State. If the hospital is for all diseases, leave the word *general*, and draw the pen through the word *apartment*. If for special classes of cases, as, "contagious diseases," women, children, &c., or "pestiferous," insert after the word *apartment*, the word *department*. Attention to these directions will insure uniformity in the reports. The figures given in the table are exactly as reported on the cards, and this office is not responsible for the misinterpretations or misreadings of the cards.

Name of hospital.	Place	Character of hospital.	Number of beds.	Patients of last report.	Cowp. small-pox.	Diph. rhum. diseases.	Fever, enteric, malarial.	Fever, scarlet, acute.	Long diseases, measles, pertussis.	Post. Small-pox, measles.	Discharged.	Totals.
Hartford Hospital	Hartford, Connecticut	General	120	107	9	1	1	1	1	1	101	101
Massachusetts General Hospital	Boston, Massachusetts	General	300	25	25	1	1	1	1	1	29	29
Ward's Island Hospital	New York City, New York	General	306	12	3	1	1	1	1	1	11	11
Emigrant Hospital	New York City, New York	General	13	10	1	1	1	1	1	1	10	10
St. John's Hospital	New York City, New York	General	25	1	1	1	1	1	1	1	1	1
St. Vincent's Hospital	New York City, New York	General	25	34	7	1	1	1	1	1	41	41
Trinity Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Ann's Hospital	New York City, New York	General	125	2	2	1	1	1	1	1	7	7
St. Vincent's Hospital	New York City, New York	General	125									

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Country.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Other contagious diseases.	Weekly mean thermometer.
Vancouver's Island.	Victoria	5,000	1879-80.																
Canada.	Montreal	135,000	Jan. 10	7	10.4														32.0
Do	St. John's	5,000	Jan. 10																34.2
Cuba	Havana	195,000	Jan. 3	135	29.5														26.0
Do	do	20,000	Dec. 25	13	38.7														75.0
Do	do	20,000	Jan. 1	13	33.0														78.5
Do	do	20,000	Jan. 8	11	36.1														78.5
Haiti	Aux Cayes	8,000	Dec. 17	2	13.0														76.0
Do	do	8,000	Dec. 24	6	33.1														75.0
Tenetiffe	Santa Cruz	16,610	Dec. 27	10	31.4														76.1
Azores, Fayal	Ilorta	7,630	Dec. 6	2	13.7														61.0
Do	do	7,630	Dec. 13	2	13.7														61.0
Falkland Islands	do	1,336	Nov. 12																52.0
Ireland	Queensdown	10,000	Dec. 20																
Do	do	10,000	Dec. 27	7	36.5														
Do	do	10,000	Jan. 3	8	44.7														
Do	do	10,000	Jan. 10	9	46.9														
Do	Belfast	212,000	Dec. 27	130	36.0														
Do	do	212,000	Jan. 3	126	33.5														
Scotland	Glasgow	578,156	Dec. 20	348	31.4														
Do	do	578,156	Dec. 27	301	31.2														
Do	do	578,156	Jan. 3	27	2.6														
Do	Dundee	130,923	Dec. 27	66	22.8														
Do	do	130,923	Jan. 3	58	20.0														
Scotland	Leith	58,479	Jan. 3	27	24.7														
England	Liverpool	518,000	Dec. 27	313	30.2														
Do	Sheffield	247,138	Jan. 3	142	24.1														
Do	Bristol	210,000	Dec. 27	134	33.3														
Do	do	210,000	Jan. 3	119	24.5														
Do	Newcastle-Tyne	146,918	Dec. 27	79	28.0														
Do	do	146,918	Jan. 3	65	24.0														
Do	London	3,620,868	Dec. 27	1878	27.0														
Do	do	3,620,868	Jan. 3	2148	31.5														
France	Havre	142,000	Dec. 27	160	30.2														
Do	do	92,068	Jan. 3	56	30.7														
Do	Rouen	104,902	Jan. 3	58	28.5														
Do	Paris	1,988,806	Dec. 24	1077	28.2														
Do	Lyon	342,815	Dec. 20	214	34.1														
Do	do	342,815	Dec. 27	248	35.4														
Switzerland	Zurich	22,008	Dec. 27	6	14.2														
Do	do	22,008	Jan. 3	8	17.9														
Holland	Amsterdam	308,852	Dec. 27	222	35.0														
Do	Rotterdam	147,000	Jan. 3	102	30.2														
Do	do	147,000	Jan. 3	98	31.8														
Belgium	Antwerp	169,981	Dec. 20	111	31.9														
Do	do	169,981	Dec. 27	121	37.9														
Do	Brussels	198,422	Dec. 27	230	30.2														
Saxony	Dresden	215,440	Dec. 20	87	21.1														
Do	Leipzig	150,836	Jan. 3	73	26.1														
Wurtemberg	Stuttgart	165,225	Dec. 13	57	28.0														
Do	do	165,225	Dec. 20	61	30.2														
Bavaria	Nuremberg	90,000	Dec. 20	50	29.0														
Germany	Frankfurt	126,000	Dec. 20	18	19.9														
Do	Bremen	105,000	Dec. 20	16	19.0														
Do	Berlin	1,062,000	Dec. 20	194	22.1														
Do	Mannheim	78,000	Jan. 3	17	15.5														
Do	Barmen	93,000	Dec. 27	11	24.1														
Denmark	Copenhagen	225,000	Dec. 23	103	23.9														
Italy	Lecce	37,850	Jan. 3	66	30.1														
Austria	Vienna	737,285	Dec. 27	401	30.2														
Do	Trieste	127,874	Dec. 20	110	41.9														
Russian Poland	Warsaw	336,703	Dec. 20	172	21.9														
Sweden	Stockholm	163,429	Dec. 20	58	17.8														
Spain	Gibraltar	18,000	Dec. 11	7	20.3														
Do	do	18,000	Dec. 20	6	17.1														
Do	do	18,000	Dec. 27	10	29.0														
Morocco	Tangier	15,000	Dec. 27	8	27.8														
Do	do	15,000	Dec. 13	9	31.3														
Do	Casablanca	6,000	Nov. 16	2	16.0														
Do	do	6,000	Dec. 6	1	8.0														
Do	do	6,000	Dec. 13																
Do	do	6,000	Dec. 20																
Do	do	6,000	Dec. 27																
Barbary	Tripoli	20,000	Dec. 20	21	62.6														
Cape Colony	Cape Town	25,000	Dec. 10	26	34.2														

*Hospitals only.

ABSTRACTS FROM CONSULAR REPORTS.

SYDNEY, AUSTRALIA.—United States Consul J. H. Williams, under date of November 26, states that a voluntary health association exists, but could not supply the data for filling weekly reports of mortality; the registrar-general can furnish quarterly and yearly reports. The population of Sydney and its suburbs is about 120,000. Sporadic cases of small-pox occasionally occur from infection introduced from abroad, but not more than six cases have appeared in the last two years. Scarlet fever and measles are sometimes very fatal during the winter, but cholera and yellow fever are unknown.

MESSINA, SICILY.—United States Consul G. H. Quinn reports 380 deaths for the months of August and September, 1873, in a population of 76,742. The annual rate was 28.3 per 1,000. The only disease noted is typhoid fever, which caused 7 deaths, and the general sanitary condition is considered very good.

DENIA, SPAIN.—United States Consul J. D. Arquimban, under date of January 3, states that there is no local board of health in the town, and that no statistics can be obtained for mortality reports. The general health of the town is good, no epidemic having prevailed since 1860. The population is about 10,000.

MÜNCHEN, BAVARIA.—United States Consul James M. Wilson forwards the annual report of the sanitary union, of which he is a member. The health of the city is generally good, but of late an unusual amount of sickness has been caused by the extremely cold weather which seems to have prevailed over the whole continent of Europe since the beginning of winter.

COLOMBO, CEYLON.—United States Consul W. Morey, under date of October 25, reports that the island is usually free from all infections of epidemic diseases. Asiatic cholera has not appeared there during the nineteen years of his residence at Colombo; typhus fever and plague are unknown, and typhoid fever occurs only in a few malarious localities. Small-pox seldom spreads to any extent, owing to the rigid enforcement of vaccination by the authorities, who provide for it without charge to the people.

Ghent, BELGIUM.—United States Consul A. Lefebvre reports for the month of November, 1879, 272 deaths in a population of 130,100, being at the annual rate of 25.1 per 1,000. One death only was caused by small-pox, 10 by typhoid fever, and 4 by other zymotic diseases. Consumption and acute lung diseases each caused 37 deaths, and 53 were due to diarrhoeal diseases. The weather was cold for the season, exact temperature not stated.

CEARA, BRAZIL.—United States Consular Agent S. Morgan forwards reports for the months of October and November, 1879, but observes that the details given are not very reliable, as no regular records of mortality are kept. For the two months, 267 deaths are reported, and the population being estimated at 55,000, the annual rate was 29.1 per 1,000. No infectious diseases had appeared during the year, and though the people suffered much inconvenience from the heat and scarcity of water, the health of the city continued very good. The mean temperature was about 86° for the two months. The causes of death are not reported.

KINGSTON, JAMAICA.—United States Consul George E. Hoskinson, in his report for the month of December, 1879, states that the sanitary condition of this city is very bad, and quotes strong language on the subject from an English traveler. The number of deaths for the month was 151, and the population being 49,000, the annual rate was 45.3 per 1,000. This mortality, in the absence of contagious or epidemic diseases, would indicate a very unsanitary condition. Malarial fevers were the chief cause of death.

BRIDGETOWN, BARBADOS.—Dr. W. C. Piggott sends, through United States Consul W. H. Polleys, the following account of the diseases and sanitary condition of the island:

We have, unfortunately, no system of registration, but I may describe the diseases of the island from an experience of nineteen years of practice here, and seventeen years of service as coroner. The island is formed of coral rock, with a porous superstratum of light soil, which renders the formation of marshes impossible, and malarial fevers are not known here. The population of Bridgetown live in rather close and crowded habitations, yet typhoid fever prevails less in the town than among the people of the rural districts. This fact I ascribe to the remarkable purity of the water used in the town. Measles and scarlet fever are not uncommon, but are seldom fatal. Small-pox was epidemic from 1859 to 1863, but since that time we have been free from the disease, though it has often prevailed in neighboring islands. The exemption of this place is probably due to judicious quarantine regulations, as vaccination is rarely practiced here. Yellow fever was epidemic in this island in 1852, and was then very fatal. Since that time only sporadic cases have occurred, and these cannot be traced to introduction of the contagion from abroad. Cholera visited the island in 1874, when about twenty thousand people died of it. Pneumonia and other inflammatory diseases are common during the rainy season, and dysentery forms an important element in the causes of death. Leprosy in various forms is not rare, especially that known as the "Barbados leg," which seldom attacks any but natives or those long resident on the island. The census of 1871 gave a population of 161,294, and an area of 106,470 acres for the whole island. The climate is enervating, as the thermometer is rarely down to 75°, and usually ranges from 80° to 85°; but the uniformity of temperature, with the absence of malaria and of epidemic diseases, render the general health of the people better than is usually found in tropical climates.

In addition to the above letter from Doctor Piggott, United States Consul W. H. Polleys forwards a report for the month of September, 1879, giving a total of 160 deaths in a population of 20,000. If these figures are correct, the annual rate of mortality would be 26 per 1,000, which would imply a bad sanitary condition in a place reported as free from malarial and zymotic diseases generally.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

PEEKSKILL, N. Y.—January 17, Dr. A. O. Snowden writes that no burial permits are required in this town, and that records are not to be obtained at present for making out regular and reliable reports of mortality.

KINGSTON, NEW YORK.—Dr. J. D. Terwilliger, city physician, reports, January 13, the existence of scarlet fever as an epidemic, compelling the closing of one of the public schools. There is a local board of health, and reports will hereafter be furnished.

CARLISLE, PA.—January 16, Dr. J. B. Landis, secretary of the local board of health, states that at present no complete register of deaths is kept, but action will probably be taken in regard to that matter at the next meeting of the board of health, in February.

CLARKSVILLE, TENN.—January 17, Dr. C. W. Beaumont forwards copies of the ordinances and rules governing the local board of health, under which burial permits are required. The rules and regulations of the National Board of Health were adopted soon after their publication.

FAIRFIELD, CONN.—January 19, Dr. Samuel M. Garlick states that there is no local board of health, but much sanitary work has been done under a voluntary association for the improvement of the town. Fifteen thousand dollars were expended during the last six months of 1879 for this purpose. No burial permits are required, except in the case of bodies brought here from other places for interment.

WORCESTER, MASS.—January 17, Dr. Rufus Woodward, city physician, states that no census has been taken since 1875, but the present population is estimated at 52,000. During the year 1879, 982 deaths were reported, giving an annual rate of 18.8 per 1,000; of children under five years there were 296 deaths, and 47 persons died at ages above eighty years. At the present time an epidemic of small-pox prevails.

NAVASOTO, TEXAS.—January 7, Dr. A. R. Kilpatrick reports that 49 deaths occurred in their town during the year 1879. The weather during the year was exceptionally dry and warm, and dysentery prevailed over the whole State. No epidemic disease visited the town during the year, and one death from whooping-cough is the only one reported from any contagious disease. The population of the town is not stated.

ATTICA, WYOMING COUNTY, N. Y.—Dr. J. A. Post reports that during the year 1879 thirty deaths occurred among 3,500 inhabitants, being at the rate of 8.6 per 1,000 per annum. Six deaths were of children under 10 years, and 2 were over 70 years. This report includes a portion of the adjoining county. In the town 22 deaths were reported in a population of 2,500, being at the annual rate of 8.8 per 1,000. Four deaths and 4 births were reported in Attica during the week ending January 15.

CHICO, CAL.—January 6, Dr. G. W. Davis states that this town has a population of about 5,000, and is situated in a fine agricultural region of the Sacramento Valley, about six miles east of that river, and three miles from the foot-hills of the Sierra Nevada Mountains. The drainage is naturally good, but it is hoped that the authorities will be induced to perfect it by a complete system of sewerage. From the winter of 1877 to April, 1879, diphtheria was epidemic and very fatal, but no case has occurred since last May.

SAINT LOUIS, MO.—Dr. Charles W. Francis, health commissioner, writes, January 16, as follows, concerning infected articles of trade:

In No. 26 of the NATIONAL BOARD OF HEALTH BULLETIN reference is made by Dr. T. C. Minor, health officer of Cincinnati, to the shipment of infected articles of commerce, and especially of rags, to Saint Louis, Louisville, Cincinnati, and eastern cities. I immediately instructed Sanitary Officer Dr. J. H. Moore to make an investigation of this matter; and, in accordance with my instructions, visits were made to the rag merchants and commission houses. An examination of the books of those firms that handled rags showed that their shipments for months past have been received from the North and West, and that, with the exception of Texas, few rags are received here from the South.

I intend to watch this matter, however, inasmuch as the opening of trade in the spring may bring rags from infected districts of the South.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JANUARY 31, 1880.

[No. 31.]

ORGANIC MATTER IN THE AIR.

PRELIMINARY REPORT ON AN INVESTIGATION CONCERNING THE BEST METHOD FOR DETERMINING THE AMOUNT OF ORGANIC MATTER IN THE AIR.

By Professor Ira Remsen, of the Johns Hopkins University, Baltimore, Md.

I herewith submit a brief report on the results of the experiments undertaken at the request of the National Board of Health for the purpose of deciding upon the best method for the determination of the amount of organic matter in the air. A full report on this subject will be presented at a later date, when the experiments, which are still in progress, have been brought to a close. The only object of this communication is to inform the Board in regard to the general character of the work which has thus far been done, the results which have been reached, and the direction in which inquiry is at present being pushed.

It must be premised that, in an investigation of the kind under consideration, the greatest amount of patience must be united with the most delicate manipulation, in order that results of any value may be attained; and, even with these advantages, a very large amount of time would necessarily be involved in anything like a complete working out of the problem. It cannot be pretended that the work thus far performed puts the subject in a very satisfactory shape, but still it will be seen that a pretty firm basis has been laid for future investigation, and this, as there is reason to believe, is all the Board expected when the investigation was first suggested.

The chief difficulty met with in this study consists naturally in the fact that the substances to be determined are present in the air in very minute quantity. To give an idea of the quantity, it is only necessary to say that, according to the best determinations by earlier experimenters, as well as by ourselves, there is, on the average, as nearly as can be estimated, about 0.5 gram of organic matter in 1,000 cubic meters of air. Now, the first question which it is desired to answer is, whether such minute quantities can be determined with sufficient accuracy to enable us to detect small variations in the amount present.

It this were possible, it is plain that the fact would be of the highest importance to sanitary science, for it is now believed, with good reason, that these organic constituents of the air are the real mischief-breeder, and hence that the determination of the amount of organic matter in the air, provided it could be done with accuracy, would give us a much more correct measure of its impurity than any means now employed. It is still customary to determine the amount of carbonic acid (CO_2) present in the air, and from the quantities found to draw conclusions concerning the impurity of the air; but, as the carbonic acid is known not to be the really injurious constituent, the method is obviously objectionable. We may have a very impure air without carbonic acid, and a harmless air with a considerable quantity of that gas.

1.—METHOD FOR COLLECTING ORGANIC MATTER FROM THE AIR.

Before anything could be done in the way of examining the organic matter, a method had to be decided upon for collecting it. To guide us in the decision we had the experience of earlier workers in the field, particularly R. Angus Smith, (*Journal Chem. Soc.*, xi, 217; *Air and Rain*, &c.), Chapman, (*Chemical News*, 1870, page 65), and Moss, (*Lancet*, 1872, page 627.). The methods employed by these investigators were not entirely satisfactory, and, further, from the descriptions of the earlier experiments, it is impossible to discover whether special experiments were undertaken to show that all the organic matter is actually absorbed by the agent employed. The method last employed by Smith is very tedious—so much so as to almost exclude its use as a practical measure. It consisted in drawing air into a vessel containing water, shaking it for some time, and then repeating this operation a great number of times, so as to secure the contact of a sufficient quantity of air with the water. It is not stated in Smith's papers whether the air that had been thus shaken with water was subsequently examined for organic matter or not; and it is questionable whether complete absorption can be effected in this way. Simply drawing the air through water is not sufficient, as Smith's first experiments showed, to secure complete absorption; and it seems also clear from Smith's statements that, if the air be drawn through a number of vessels and tubes, a considerable quantity of the substances which it is desired to obtain remains in contact with the walls of the glass vessels and tubes. It is hence necessary

to avoid the use of a complicated series of vessels, and to make the collector as compact as possible.

Chapman some time ago suggested the use of pumice-stone, and actually employed it in this way: It was first ignited to destroy all organic matter that might be in contact with it, then a piece of platinum gauze was placed on a funnel, then a layer of coarsely powdered pumice-stone upon this, and finally a layer of the finely-powdered material upon this. It seemed to be undesirable to diminish as much as possible the surface of the absorbent directly exposed to the air, and to increase the thickness of the mass through which the air was to be passed, so the apparatus was modified by using, instead of the funnel, a tube of three-eighths inch internal diameter, and from 5 to 7 inches long. This was drawn out at the lower end, so as to accommodate a small piece of rubber tubing, and in this form it is ready for use. After being carefully washed, it is filled with ignited powdered pumice-stone. This piece of apparatus was found to be as efficient as it is simple in construction. Several experiments were now undertaken in order to determine its efficiency.

First, the air after passing through the pumice-stone was drawn by means of an aspirator through four small flasks containing pure distilled water, and, at the end of the operation, the water in the flasks was examined for nitrogenous matter by treating it in such a manner as to convert the nitrogen into ammonia. No ammonia was obtained from it except the minute quantity originally present. Then the air was passed successively through two pumice-stone tubes, and, while the first yielded the usual quantity of ammonia, the second did not yield even a trace. These experiments were repeated with very impure air, and with the same results. The rate at which the air was drawn through the absorbent was varied from the passage of 10 liters in two hours to the passage of the same amount in forty-five minutes. In all cases, however, no ammonia was obtained from absorbents placed between the first pumice-stone tube and the aspirator.

Whether the simple fact that the absorption of the nitrogenous material is completely effected by the pumice-stone is all that is necessary, is a question which will be considered in brief further on; but that all the materials which contain ammonia or are capable, either by treatment with caustic soda or with caustic soda and potassium permanganate, of yielding ammonia, are completely absorbed by the little piece of apparatus above described, is established beyond any possibility of a doubt by our experiments.

With this knowledge it is possible to undertake a definite investigation concerning the amount of nitrogenous organic matter in the air; for after the material is once in our possession, the use of Nessler's solution will enable us to determine the small quantities of ammonia obtained.

A series of experiments was now made with air from different sources in order to determine how much reliance could be placed upon the results reached. As the composition from any source is liable to vary considerably from day to day it was recognized that the only possible way in which to secure results that could safely be compared with one another was to examine at the same time specimens of the same air, so that parallel experiments were always carried on and the results compared. In some cases three experiments with the same air were carried on at the same time, for the purpose of more thorough verification. As an illustration of the coincidence of results reached in parallel experiments, I may give one case:

External air taken from a height of about 25 feet above the ground was drawn by means of aspirators in the usual manner through three pumice-stone tubes.

Experiment 1. There was found an amount of ammonia corresponding to 0.43 grams in 1,000 cubic meters of air.

Experiment 2. The corresponding amount found was 0.54 grams in 1,000 cubic meters of air.

Experiment 3. The amount found was 0.43 grams in 1,000 cubic meters of air.

When the very minute quantity of substance dealt with is taken into consideration the agreement in the results must be regarded as fairly satisfactory. Now, in nearly all the experiments undertaken upon this point an almost equally close agreement of results was reached. To this statement a few exceptions must be made, but in every case in which any marked disagreement was observed a sufficient reason was known.

The experiments alluded to prove then pretty conclusively: 1st, that the pumice-stone tube is an efficient apparatus for the collection

of all ammoniacal or nitrogenous organic substances contained in the air; and 2d, that the ammonia yielded by the substances thus collected can be determined with a considerable degree of accuracy by the use of the method of Nessler.

It will, of course, be observed that in the above method it is not supposed that all organic materials that may be in the air are included, but only those which contain nitrogen. The question still remains open whether other organic materials may not pass unabsorbed through the pumice-stone. This may be answered by passing the air which has been in contact with the pumice-stone through a solution of permanganate of potassa. If organic material is left, its presence will, in all probability, be indicated, though its quantity may not be estimable by the decoloration of the permanganate. So, too, it has been found that air contaminated with organic matter, if passed through a heated tube and then into alcohol, causes a dark color to appear in the alcohol, and there seems to be some observable relation between the amount of organic matter present and the depth of the color produced in the alcohol. This fact might be taken advantage of to determine whether there is organic matter left in the air after it has passed through the pumice-stone. Experiments of this character have not yet been performed.

II.—EXAMINATION OF THE COLLECTED MATERIAL.

After the collection of the material from the air the problem of its examination becomes very similar to that of the examination of the organic matter in water. It is known that great differences of opinion exist among those who have worked on the latter problem, and it can safely be said that up to the present no satisfactory conclusion has been reached. It is not necessary to enter into the discussion as to the relative merits of the different methods which are in use, or which have been recommended for the determination of organic matter as it exists in water. It is plain that it is not of so much importance to sanitarians to know the total amount of organic matter, that is, matter containing carbon, in the air, as to know the amount of those particular organic matters which are most likely to be injurious. These are commonly supposed to be nitrogenous, on the assumption that they are derived from animal substances which nearly always contain nitrogen.

In this investigation the view that the injurious substances in the air are nitrogenous has thus far been accepted provisionally, and every effort has hence been made to determine the amount of ammonia which could be formed from the matter collected. But by means of the method of Wanklyn, Chapman, and Smith (Journ. Chem. Soc., N. S., V., page 591; Wanklyn, Water Analysis, fourth edition, 25) it is possible to divide the ammonia obtained into two parts: First, that portion which exists either as free ammonia or as salts of ammonia, called "*free ammonia*;" and, second, that which is obtained from nitrogenous organic matter by treatment with caustic soda and permanganate of potassa, called "*albuminoid ammonia*." If all nitrogenous organic materials which occur in the air certainly yielded all their nitrogen in the form of ammonia when treated with caustic soda and permanganate of potassa, then the determination of the amount of albuminoid ammonia in the air would furnish us with a fair, though not an accurate, measure of the amount of such nitrogenous materials present. Whether this is so or not cannot be easily decided, but it is known that many organic substances containing nitrogen do not give up all their nitrogen when treated as above described. This fact detracts from the value of the "albuminoid ammonia" process, though it by no means necessarily renders it valueless. It is still possible, of course, that the very nitrogenous substances, the presence of which it is desired to discover, may be completely decomposed by the reagents employed in the Wanklyn process. If it can be shown that in several experiments carried on simultaneously with the same air the same amount of "albuminoid ammonia" is found, and that these amounts bear a constant relation to the impurities of the atmosphere, then it would be of value. With these points in view several experiments were next undertaken, the results of which are not as satisfactory as could be desired, though they are certainly interesting as throwing light upon the value of the method employed. In parallel experiments there was usually observed a fair agreement of results, but occasionally very marked differences were met with in the amounts of "albuminoid ammonia" found in one and the same specimen of air. Thus, in one series of three experiments carried on simultaneously, the following results were obtained:

In the first experiment there were found in 1,000 cubic meters air, 0.128 gram of free ammonia and 0.245 gram "albuminoid ammonia."

In the second experiment the amounts were 0.120 gram free and 0.241 gram "albuminoid ammonia."

In the third experiment the amounts were 0.157 gram free and 0.292 gram "albuminoid ammonia."

These results may be regarded as fairly satisfactory, when the delicacy of the operations involved is taken into consideration. In another case two parallel experiments yielded less concordant results, though, as usual, every precaution was taken to avoid error. The results referred to were in

Experiment 1: 0.120 gram free ammonia and 0.245 gram "albuminoid ammonia," in 1,000 cubic metres air; and in

Experiment 2: 0.073 gram free ammonia and 0.157 gram "albuminoid."

While there are quite marked discrepancies between the amounts of

free and "albuminoid ammonia" found in these two experiments, it will be noticed that the agreement in the total amounts of ammonia found is much better; the amount being in Experiment 1, 0.405 gram, and in Experiment 2, 0.530 gram.

An extended series of observations upon the point here under consideration would be necessary before complete reliance could be placed upon the results reached by the methods described. While of course the proof is not given that the "albuminoid ammonia" process as applied to air analysis is not of value, it is certain that its application must require the greatest skill, such as only a thoroughly trained chemist could command. It is hoped that, should it be possible to continue these experiments, they may lead to a more definite conclusion than any which can now be drawn. All that can at present be stated with any degree of certainty is, that the material collected in the pumice-stone absorber from the same amount of the same air gives approximately the same amount of ammonia; while the results of experiments made to divide the total ammonia into the two parts, *free* and *albuminoid*, seem to indicate that there is considerable danger of inaccuracy. In earlier experiments, especially those of Smith and Moss, more importance seems at the outset to have been attached to the reaching of new results in the examination of different kinds of air than to the testing of the methods employed by the continued performance of parallel experiments. It is hence impossible to say how much weight should be given to the results of these experiments. Nevertheless, their results are interesting, indicating as they do marked variations in the amounts of nitrogenous organic matter contained in the air under different circumstances. The labors of these investigators will be examined more critically in the fuller report to be presented later.

Apparently the most remarkable results yet reached are those recently described by W. Van Slooten (Journal American Chemical Society, 1, 263), who undertook to determine the amount of *free* and *albuminoid* ammonia in the air of New Orleans during a part of the year 1878, covering the period of the yellow-fever epidemic. He found: "First, that the air was abnormally charged with 'albuminoid ammonia' during the epidemic; second, that the abnormality disappeared with the fever; third, that the atmosphere not in immediate connection with the ground was comparatively free from any abnormal variations from an average standard." It would be venturesome to accept these results without verification. The figures given by Van Slooten are certainly in accordance with the view that at the time of the epidemic the air is abnormally charged with "albuminoid ammonia." This may be true, and nevertheless it may be that no direct connection whatever exists between the epidemic and the "albuminoid ammonia." It is highly probable that in summer there is more volatile organic matter in the air than in winter, or, in general, more when the temperature is high than when it is low. Conclusions like that of Van Slooten can only be of value when it has been shown that during an epidemic there is more "albuminoid ammonia" in the air than there is at the same period of other years when epidemics are not raging.

Finally, it should be mentioned that, in attempting, to answer the question whether the amount of "albuminoid ammonia" can be regarded as a safe measure of the purity of air, some experiments were performed with air contaminated by being drawn through water containing decaying meat. The odor of this air was almost unendurable, and, according to all commonly accepted notions, it could not be breathed without serious results; yet, when examined by the method used in all the other cases, a very small amount of "albuminoid ammonia" was obtained from it—rather less, indeed, than from ordinary air. These experiments were frequently repeated, and always with practically the same results. In view of the importance of these facts in connection with the subject under investigation, it will be necessary to repeat these experiments a great many times. It is also desirable to use other means for rendering the air markedly impure, and then to subject it to examination. It is proposed, if time permit, to place a dog in an air-tight box, to draw air slowly through the box, and then examine the air for "albuminoid ammonia." Similar experiments have, to be sure, already been performed, but without satisfactory results. The field of inquiry which lies before us is thus seen to be very extensive, but it is attractive, and, to a certain extent, promising. It seems not improbable that, if time and opportunity were afforded, its exploration would lead to discoveries of great importance to sanitary science. By the work briefly referred to in this report the paths have been made pretty definite, so that a continuation of the investigation appears to be desirable.

YELLOW FEVER IN THE HORSE AND DOG.

A report upon the fever of acclimation or yellow-fever of the horse and dog; by Dr. Pasqual Beauville, of Havana, sub-delegate on veterinary surgery; presented to the Havana committee of the National Board of Health through the Spanish commission for the study of yellow-fever; abstract and remarks by George W. Sternberg, surgeon United States Army.

The disease of acclimation is an infectious disorder characterized by stupor, prostration, and alteration in the character of the blood.

Report of mortality in cities of the United States for the week ending January 17, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths. per 1,000.	Annual death-rate per 1,000.	Cerebro-spinal fever.	Consumption.	Diphtheria and croup.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Furunculæ and carbuncles.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping cough.	Yellow fever.
Me	Bancor	20,000	.....	2	5.2	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
N. H.	Concord	14,000	.....	4	14.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mass	Boston*	375,000	73	186	25.8	1	32.2	.....	.....	41	.....	.....	.....	.....	.....	.....	.....	.....
	Cambridge	50,000	4	12	15.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	New Bedford	27,000	3	7	13.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Newburyport	13,800	.....	5	18.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Marlborough	7,500	.....	13	13.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Fall River	48,500	14	21	22.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Plymouth	6,334	.....	11	14.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Lawrence	40,000	5	11	14.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Lowell	52,000	10	28	28.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Worcester	52,000	4	16	16.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Brockton	37,000	7	13	18.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Somerville	12,000	1	4	17.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Pittsfield	23,000	2	10	22.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Springfield	31,000	3	12	20.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
R. I.	Milford	101,500	9	13	22.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Conn	Providence*	60,000	11	10	16.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	New Haven	16,500	1	4	12.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vt.	Burlington	1,097,563	177	67	21.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. Y.	New York	504,448	81	100	18.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Brooklyn	19,000	1	3	8.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Poughkeepsie	20,000	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Hudson	8,784	.....	2	11.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Newburgh	17,500	2	2	23.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Sing Sing	5,000	1	5	52.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Utica	35,000	.....	21	31.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Rochester	90,000	.....	24	13.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
N. J.	Hudson County	18,000	1	2	19.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Rumhampton	189,000	30	4	21.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Hudson County	125,000																

Report of mortality in cities of the United States for the week ending January 17, 1880.—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Cerebro spinal fever.	Consumption.	Diarrheal diseases.	Dysentery and cramp.	Erysipelas.	Lung diseases, acute.	Malarial fevers.	Measles.	Scarlet fever.	Small-pox.	Typhus and typhoid fevers.	Whooping-cough.	Yellow fever.
Kans., Lawrence.	8,478	3	18.4														
Nehr., Omaha.	30,000	12	20.8														
Utah., Salt Lake City.	25,000	10	20.8														
Cal., San Francisco.	300,000	10	20.8														
Sacramento.	25,000	12	3	6.3													
Vallejo.	5,000																
Totals.	8,151,572	1,045	2,419	18.0	2	406	50	237	1	363	23	30	43	98	6	45	32

* Boston has 370,000 white, 5,000 colored; deaths, 182 white, 4 colored. Rate per 1,000, white, 25.6, colored, 41.6. Marblehead has 7,479 white, 21 colored; deaths, 2 white, Rate in table. Lawrence has 39,800 white, 200 colored; deaths, 11 white. Rate in table. Providence has 97,720 white, 3,750 colored, deaths, 41 white, Rate in table. Reading has 40,000 white, 350 colored; deaths, 15 white. Rate in table. Wilmington, Del., has 10,000 white, 4,000 colored; deaths, 11 white, 5 colored. Rate per 1,000, white, 14.3, colored, 55.2. Baltimore has 342,715 white, 56,255 colored; deaths, 88 white, 5 colored. Rate per 1,000, white, 12.2, colored, 25.6. District of Columbia has 114,000 white, 56,000 colored; deaths, 38 white, 35 colored. Rate per 1,000, white, 17.1 colored, 32.8. Norfolk has 14,487 white, 9,913 colored; deaths, 3 white, 4 colored. Rate per 1,000, white, 11.1, colored, 21.0. Wilmington, N. C., has 6,714 white, 10,266 colored; deaths, 2 white, 6 colored. Rate per 1,000, white, 15.5, colored, 30.4. Charleston has 25,000 white, 32,000 colored; deaths, 8 white, 23 colored. Rate per 1,000, white, 16.7, colored, 37.5. Savannah has 17,493 white, 15,163 colored; deaths, 5 white, 13 colored. Rate per 1,000, white, 11.9, colored, 51.6. Augusta has 15,246 white, 11,626 colored; deaths, 3 white, 6 colored. Rate per 1,000, white, 6.8, colored, 22.4. Atlanta has 25,374 white, 16,175 colored; deaths, 3 white, 5 colored. Rate per 1,000, white, 6.1, colored, 16.1. Jacksonville has 6,000 white, 4,000 colored; deaths, 2 white. Rate in table. Mobile has 22,000 white, 12,000 colored; deaths, 6 white, 5 colored. Rate per 1,000, white, 11.1, colored, 21.7. New Orleans has 135,000 white, 55,000 colored; deaths, 65 white, 32 colored. Rate per 1,000, white, 21.8, colored, 30.3. Shreveport has 4,500 white, 5,000 colored; deaths, 2 white. Rate in table. Nashville has 17,565 white, 3,500 colored; deaths, 7 white, 3 colored. Rate per 1,000, white, 20.7, colored, 25.5. Chattanooga has 6,000 white, 4,000 colored; deaths, 1 colored. Rate in table. Jackson has 5,000 white, 2,000 colored; deaths, 3 colored. Rate in table. Burlington, Iowa, has 25,000 white, 5,000 colored; deaths, 4 white, Rate in table. Lawrence, Kansas, has 6,860 white, 1,700 colored; deaths, 3 white. Rate in table.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	* Total deaths.	Annual rate per 1,000.	Cholera.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Canada.	Montreal.	135,000	Jan. 17	50	22.8				5		1		1 23.38
Do.	St. John's.	5,000	Jan. 17										14.
Do.	do.	5,000	Jan. 24	2	20.8								14.
Bermuda.	Hamilton.	14,867	Jan. 13										69.3
Do.	do.	14,867	Jan. 20	1	15.5								68.8
Cuba.	Havana.	195,437	Jan. 10	110	29.4			2	1	2			73.0
Do.	Chienfuegos.	20,000	Jan. 15	17	11.3					1	1		75.5
Mexico.	Vera Cruz.	15,750	Jan. 7	122	52.3								75.6
Do.	Acapulco.	3,500	Dec. 20	8	119.2								83.0
Do.	do.	3,500	Dec. 27	7	104.3								84.0
Brazil.	Pernambuco.	126,575	Dec. 13	64	25.9					1			73.3
Do.	do.	126,575	Dec. 20	40	31.0								73.3
Do.	do.	126,575	Dec. 27	65	26.8								73.3
Do.	do.	126,575	Jan. 3	51	22.2			1	1	1			73.3
Do.	Bahia.	115,000	Dec. 13	77	29.7					2			73.3
Do.	do.	115,000	Dec. 20	49	26.6								73.3
Do.	do.	115,000	Dec. 27	56	29.3								73.3
Do.	do.	115,000	Jan. 3	77	29.7								73.3
Ireland.	Queenstown.	10,000	Jan. 17	3	15.6								43.0
Do.	Belfast.	212,000	Jan. 10	64	23.4					1			43.0
Scotland.	Dundee.	155,000	Jan. 10	69	23.2					2			43.0
Do.	Leith.	58,000	Jan. 10	15	14.4								43.0
England.	Liverpool.	541,000	Jan. 10	265	26.0					1	3	10	2 43.0
Do.	Sheffield.	272,138	Jan. 10	89	25.1								43.0
France.	Rouen.	104,002	Jan. 10	41	11.8								43.0
Do.	Paris.	1,288,006	Dec. 31	1,279	14.5					26		37	43.0
Holland.	Amsterdam.	395,952	Jan. 3	244	19.9								43.0
Do.	do.	395,952	Jan. 10	253	11.0								43.0
Do.	Rotterdam.	147,000	Jan. 10	100	10.5								43.0
Saxony.	Breslau.	215,140	Dec. 27	111	25.6								43.0
Do.	Leipsic.	140,000	Jan. 10	77	15.1								43.0
Do.	Chemnitz.	89,000	Dec. 27	40	29.1								43.0
Bavaria.	Munich.	96,000	Dec. 27	15	15.1								43.0
Germany.	Frankfort.	126,000	Dec. 27	16	27.1								43.0
Do.	Bremen.	165,000	Jan. 3	18	21.8								43.0
Do.	Berlin.	1,062,000	Dec. 27	35	15.7								43.0
Do.	Berlin.	1,062,000	Dec. 20	29	12.9								43.0
Do.	Berlin.	1,062,000	Dec. 27	111	25.6								43.0
Do.	Berlin.	1,062,000	Jan. 3	36	29.2								43.0
Denmark.	Copenhagen.	225,000	Dec. 10	15	15.7								43.0
Do.	do.	225,000	Dec. 17	20	26.1								43.0
Italy.	Venice.	141,218	Dec. 13	6	12.8								43.0
Do.	do.	141,218	Dec. 13	126	36.6								43.0
Do.	do.	141,218	Dec. 20	120	19.1								43.0
Do.	do.	141,218	Dec. 27	121	15.1								43.0
Russia.	Warsaw.	336,793	Dec. 27	111	21.0								43.0
Sweden.	Stockholm.	169,129	Dec. 27	55	15.1								43.0
Norway.	Christiania.	114,000	Dec. 27	10	18.1								43.0
Barbary.	Tripoli.	29,000	Jan. 9	91	29.7								43.0
Cape Colony.	Cape Town.	38,000	Dec. 22	24	27.1								43.0

Name of hospital,

[illegible]

The following reports for the week ending January 17 are from places requiring burial permits, and having less than 5,000 population:

Edgartown, Mass., population, 1,700; no deaths. Brunswick, Ga., 3,000; 1 death from diarrhea, under 5 years. Murfreesborough, Tenn., 4,000; deaths, 3, under 5 years; pneumonia 2. Nantucket, Mass., 3,000; 1 death. Shelbyville, Tenn., 2,000; 1, premature birth. Total population, 13,700; total deaths, 6; under 5 years, 5; annual rate per 1,000, 22.8.

The following reports for the week ending January 17 are from places in which burial permits are not required:

Allegheny, Pa., population, 75,000; deaths, 21; under 5 years, 8; consumption 4, diarrhea 1, diphtheria 4, enteric fever 1, lung disease 1. Bath, Me., 10,000; deaths, 3; puerperal 1. Bay City, Mich., 19,500; deaths, 4; under 5 years, 2; consumption 1, diphtheria 3 (report probably incomplete). Belfast, Me., 5,275; deaths, 4; consumption 1, diphtheria 2, enteric fever 1. Benton County, Miss., 11,000; pneumonia 2. Birmingham, Pa., 300; no deaths. Boulder, Colo., 4,200; deaths, 4; under 5 years, 1; consumption 1, diphtheria 1, pneumonia 1, puerperal 1. Brattleborough, Vt., 5,000; deaths, 3; pneumonia 1, puerperal 1. Bridgeton, N. J., 8,000; no deaths. Brownsville, Tex., 6,500; deaths, 2; consumption 1. Calais, Me., 7,000; deaths, 4; under 5 years, 1; pneumonia 1. Cambridge, N. Y., 1,850; deaths, 2; consumption 1, enteric fever 1. Carrollton, Miss., 600; 1 death. Clinton, Mich., 1,000; no deaths. Columbus, Ga., 1,000; deaths, 6; under 5 years, 2; consumption 1, pneumonia 2. Crystal Springs, Miss., 1,000; no deaths. Dallas, Texas, 20,000; deaths, 2; pneumonia 1. Davenport, Iowa, 25,000; deaths, 6; pneumonia 1. Decatur, Miss., 1,000; no deaths. Dunkirk, N. Y., 7,241; deaths, 1; consumption 1. Fayette, Miss., 300; no deaths. Fernandina, Fla., 3,000; no deaths. Flint, Mich., 10,000; no deaths. Inka, Miss., 1,000; 1 death. Kingston, N. Y., 23,000; deaths, 25; consumption 2, croup 3, diarrhea 1, scarlet fever 15, puerperal 1, small-pox 3. Lansingburgh, N. Y., 7,450; deaths, 5; consumption 2, diarrhea 1, lung diseases 2. Louisiana, Mo., 5,200; 1 death, under 5 years. Madison, Ind., 12,000; deaths, 3; under 5 years, 2; puerperal 2. Massillon, Ohio, 9,000; pneumonia 2. Monroe, Mich., 5,736; pneumonia 1, under 5 years. Mount Pleasant, Iowa, 5,000; consumption 1. Orange, N. J., 12,000; deaths, 2; pneumonia 1. Painesville, Ohio, 5,000; deaths, 2; under 5 years, 1; croup 1, lung disease 1. Plainfield, N. J., 9,000; deaths, 2; consumption 1. Pontotoc, Miss., 600; no deaths. Port Gibson, Miss., 11,000; pneumonia 1, under 5 years. Portsmouth, Va., 11,000; deaths, 5; scarlet fever 1, pneumonia 1. Ripley, Miss., 1,000; no deaths. Springfield, Ohio, 20,000; deaths, 11; consumption 2, diphtheria 5, enteric fever 1. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths, 7; under 5 years, 5. Summit, Miss., 2,250; no deaths. Tuscaloosa, Ala., 4,000; deaths, 2; malarial fever 1. Verona, Miss., 1,000; no deaths. Waterbury, Conn., 16,000; deaths, 7; under 5 years, 1; consumption 2, lung diseases 2. Wesson, Miss., 2,000; no deaths. Winona, Minn., 11,750; consumption 1, pneumonia 1. Youngstown, Ohio, 12,000; deaths, 1; under 5 years, 1; consumption 1, croup 1, pneumonia 1. Total population, 128,237; total deaths, 149; under 5 years, 27.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending January 17, represent a total population of 8,151,572, being only 25 more than the number for last week. This coincidence allows a direct comparison between the total deaths from the several diseases included in the table for the two weeks. The total number of deaths this week being 2,419, the general rate of mortality has declined from 1.84 to 1.80 per 1,000. The ratio of deaths under 5 years is a little higher than last week, having advanced from 36.7 to 37 per cent. of the total mortality. *Scarlet fever* caused 28 deaths this week, as compared with 91 for last week; the disease is still epidemic in Providence, R. I., and in Fall River, Mass., and prevails extensively through the States lying north of 37° latitude. *Diphtheria* and *croup* show the same distribution, and have caused 32 more deaths this week than in the week before. As the other diseases which chiefly influence the death-rate among children remain almost unchanged, the higher rate for this week is to be ascribed principally to the last-named diseases. A number of cities being added to the list of those which give their white and colored populations, the death-rates are compared this week from a total of 1,412,512 white and 319,500 colored, comprised in 23 cities, from New England to Louisiana. The result shows an annual rate of mortality for the white population of 18.5 and for the colored of 29.2 per 1,000. On dividing the cities, as before, by the line of the Potomac and Ohio

rivers, it is found that the death-rate for the colored population is almost exactly the same in the Northern and in the Southern cities, while that of the whites is 16.7 for the Southern and 19.1 for the Northern cities.

ABSTRACTS FROM CONSULAR REPORTS.

PORT AU PRINCE, HAYTI, January 7.—United States Consul J. M. Langston reports that since December 9, yellow fever has appeared in the ports of Miragoâne, and St. Marc, and that it seems to have been introduced into both places by foreign vessels. At Miragoâne the disease was confined to the shipping, and no cases had been reported since December 21. Advice from St. Marc, dated December 31, state that several European seamen were in hospitals with yellow fever, and that two of them had died. The disease was not considered epidemic in that port, but clean bills of health were not issued. No American vessels had been infected at the date of reports. Port au Prince is reported free from contagious diseases.

SANTOS, BRAZIL.—United States Consul Wm. T. Wright sends a report under date of December 11, 1879. He states that no epidemic disease exists there, and but one case of yellow fever had occurred recently, which terminated fatally. The disease is usually considered not dangerous in that country, and is not regarded as "contagious" by Mr. Wright, who makes no distinction, except as to degree, between yellow and malarial fevers.

LOURCE, PERU.—United States Consul Joseph W. Merriam announces, under date of January 29, that the bark *Camilla* sailed on the 25th for New York, and that the bark *Nellie Brett* would soon sail for Hampton Roads, Virginia. Both vessels had small-pox on board.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

GADSDENBURGH, ILL., January 19.—Health Officer G. W. Foote states that burial permits are required in this town, and that reports will be furnished. Health ordinances have been recently published by the authorities.

FREEDPORT, ILL., January 20.—Dr. O. E. Stearns states that there is no board of health for the town, and the reports for the town and county together are required by the rules of the State board of health to be made monthly.

JACKSONVILLE, ILL., January 19.—Dr. Charles G. Brown forwards the report for the year 1879, and expects to be able to furnish weekly reports of mortality.

GREENVILLE, ALA., January 19.—Dr. T. J. Palmer, secretary of the board of health of Butler County, states that a health officer has recently been appointed, and that reports will be furnished.

GENEVA, N. Y., January 21.—Dr. D. C. Nelson forwards a copy of the regulations of the local board of health, and will furnish weekly reports to the National Board. No burial permits are required.

DORR'S FERRY, N. Y., January 21.—Dr. J. G. Audler writes that the local board of health requires only reports of contagious diseases and unhealthy conditions or locations; but the physicians will probably be able to make correct returns of mortality and disease at least monthly.

AMSTERDAM, N. Y.,—Dr. S. H. French, under date of January 21, says that this village of 8,000 inhabitants is situated on the Mohawk River, 32 miles west of Albany. The board of health consists of four persons, two of whom are physicians, Dr. French being health officer. At present only monthly reports of births and deaths can be obtained. Small-pox prevails in the village, but the number of cases and deaths is not stated.

ORTHMAN, IOWA, January 18.—Dr. S. B. Thrall states that in this town of 12,000 inhabitants there is no board of health, and burial permits are not required. A "health committee" of the city council is the only sanitary organization, and until further legislation is obtained weekly reports cannot be made.

MILLEDGEVILLE, GA., January 19.—Dr. L. L. Harris states that this city has no board of health nor any sanitary ordinances. The only source of information as to mortality and diseases would be the weekly reports which the city sexton is required to make to the board of aldermen.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, FEBRUARY 7, 1880.

[No. 32.]

THE STATE BOARD OF HEALTH OF MARYLAND.

The National Board of Health has received a copy of a bill now before the Maryland legislature which is intended to effect a reorganization of the State board of health, the principal features of which are given below.

The organization proposed by this bill will certainly be a great improvement upon the existing board, which has practically no powers, no well-defined duties, and no funds at its command. It will be found interesting to compare this plan with that contained in the bill for a State board of health for New York, given in the BULLETIN of January 10, 1880, page 211.

The principal differences are as follows:

1st. The New York board is to elect its own executive officer or secretary. In Maryland this officer is to be appointed by the governor.

As regards this point, it is believed that it is best in the great majority, if not in all cases to intrust to boards of health the power of selecting their own officers. The entire executive work of the board, for which the board must necessarily be, by the legislature and the people, held more or less responsible, is to be placed in the hands of the secretary, and in such case it would certainly seem that the board should have the power to select its own secretary.

2d. The New York bill provides that the report of the examination of the State board of health into nuisances of any kind shall be filed in the office of the secretary of state, and the governor may, in relation to the matters or things found and certified by the State board of health to be nuisances, declare them to be public nuisances and order them to be changed as he shall direct, or abated and removed, and any violation of such an order is to be held and punished as a misdemeanor.

By the Maryland bill the board is to investigate any nuisance reported to it by the authorities of any county, State, or village, and they may apply to the judges of the circuit court of the county to restrain and prevent such nuisances.

3d. By the New York bill the amount of \$15,000 is appropriated for the expenditures incurred by authority of the board, while by the Maryland bill the total expenditure is to be \$1,000, viz. \$2,500 for the secretary and \$1,500 for all other expenses.

It would certainly seem that the legislative authorities of Maryland should be not only willing but desirous of granting more funds than this to its State board of health. The greater part of the proper and necessary work of such a board, in the way of collecting positive and reliable in-

formation as to the health of the people of the State and the influences which are at work to cause sickness or threaten health, is yet to be done.

The third biennial report of the secretary of the present board, just issued, calls attention to a number of points which require investigation, and there can be no doubt that the sum of \$10,000 expended in sanitary surveys in Maryland during the coming year would be one of the best investments of money which could be made by the State.

Neither of the bills referred to contain any allusion to the subject of quarantine, or confer directly any authority on the State board as regards this matter. It is believed that all quarantines in the State should be administered under the direction of its State board of health, and that quarantine laws should be State and not municipal. It is only in this way that reasonable uniformity can be secured and unnecessary and improper interference with commerce and travel in the name of quarantine restrictions can be prevented.

The State board of health is to consist of seven members, one for each Congressional district and one for the State at large, to be appointed by the governor, with the advice and consent of the senate, the term of service to be six years. The member appointed for the State at large is to be *ex officio* secretary of the board.

The duties of the board are to collect information relating to the sanitary condition of the State, including vital statistics; to make investigations and inquiries respecting the causes of disease, and especially of epidemics; the causes of mortality and influences of locality, employment, &c., upon the health of the people.

It shall investigate all nuisances affecting the public health, the existence of which may be reported to it by the authorities of any county, city, or village in the State; and it is authorized, by information or petition filed in the name of the board, to apply to the judges or to any judge of the circuit court for the county in which such nuisances shall exist, or to any judge of the circuit court of Baltimore City, as the case may be, in term time or vacation, for an injunction to restrain and prevent such nuisance, by whom or by what authority committed.

The board is to meet quarterly in the city of Baltimore, and at such other times and places as they may appoint. It shall elect its own president and adopt all needful rules and regulations. It shall organize, as far as practicable, in every city, village, and legislative district of the State local boards or advisory committees, to serve without pay, to assist the board in the performance of its duties, and to make a report at least once a year to the board of the sanitary condition of their respective cities, villages, or districts.

In the event of an epidemic or pestilential disease occurring in any county, city, or village of the State, the board shall confer with the proper authorities, and, if the emergency shall require it, forthwith cause all needful sanitary measures and precautions to be taken which may

be approved for the purpose by the governor and attorney-general, the action to be at once reported to the legislature, if in session, and if the legislature be not in session, and, in the judgment of the governor cannot be conveniently convened in time, upon the application of the board, and with the approval of the governor and attorney-general, the comptroller is authorized to draw a warrant on the treasury in favor of the board for an amount not exceeding _____ dollars, to be applied and expended under the direction of the board in carrying out such sanitary measures and precautions as the board, together with the governor and attorney-general, shall deem necessary to protect the health and lives of the people.

The secretary of the board is to be its executive officer and to keep its records and accounts; to correspond with the National Board of Health, with State boards of health, and with local boards and health officers of the State; to prepare blank forms for use by the several local boards; to advise with regard to the sanitation of any public institution or building; and to act as superintendent of vital statistics, to collect, tabulate, and index these statistics.

All local boards of health, health officers, and others charged with the collection of vital statistics are directed to make true and correct returns to the State board of health.

The members of the board receive no compensation. The secretary is to receive twenty-five hundred dollars (\$2,500) per annum. The sum of fifteen hundred dollars (\$1,500) per annum is appropriated to meet the contingent expenses of the board, in addition to the amount allowed for the salary of the secretary.

REPORT ON SMALL-POX IN THE DISTRICT OF COLUMBIA.

By Dr. Charles Smart, Assistant-Surgeon United States Army.

DR. CHARLES SMART, submits the following report, February 4, 1880:

When an investigation of the condition of affairs was made on December 27, 1879, under order from the executive committee of the National Board of Health, twelve cases were found, all apparently originating from the same primary case. This rapid propagation was viewed as indicating a strong epidemic tendency. The cyclical period of variola is seven or eight years when unmodified by the general vaccination of the people. Vaccination had been much neglected in the District. The last epidemic occurred in 1872-73, when 1,738 cases were recorded and 627 deaths. These considerations suggested the necessity for prompt and energetic measures to prevent the occurrence in 1880 of another such outbreak.

Dr. S. Townsend, Health Officer of the District, had isolated each case as it was reported, and disinfected premises on the removal of the patients; but his small-pox service was limited by want of means. Nevertheless, that the method was efficient where employed was proved by the non-appearance of second cases in certain of the houses thus treated. But as some of the patients were not reported until several days after the disease was in full progress, a dissemination of the poison to a certain extent had to be accepted as an accomplished fact. The damage thus inflicted could only be ascertained by the future developments, but as twelve cases had originated from the first one it was conceived that no alarm need be felt if the cases numbered one hundred by the end of January. The Health Office was prepared to accept the disease to this extent as having resulted from its financial inability to carry out the needed preventive measures. The assistance of the National Board enabled Dr. Townsend to perfect his system. A resident physician was provided for the hospital and an ambulance service organized. An inspector was employed to diagnose the reported cases, treat those in isolation, and vaccinate those persons who had been exposed to contagion, and a second inspector to superintend disinfection. These officers performed their duties intelligently and well. In cases where the patient's home afforded the necessary facilities for isolation, the house was quarantined and the fact made public by placing a yellow flag at some point where it would be apt to catch the eye. In the event of death, removal to hospital, or recovery, disinfection was effected by burning sulphur and by a free subsequent ventilation. Articles supposed to be contaminated were destroyed.

The vaccination service consisted of the physicians to the poor, who went from house to house, each in his district, and of one medical officer on duty at the health office. Vaccination returns were printed, calling for name, location, age, sex, color, nativity, number of years since previous vaccination or revaccination, number of scars

of previous vaccination or revaccination, with the quality of the scars, together with the result of the present operation, as inspected on a stated day. As 24,000 entries already appear on these returns, Dr. Townsend will have a valuable store of information bearing on the status of vaccination in the District. So far as individual observation goes I am of opinion that in a large percentage of cases the operation has heretofore been performed in a manner to bring discredit upon it by giving not only the individual but the public a false sense of security. Cases reported as vaccinated in infancy have been inspected where scarcely a trace could be discovered on the arm. More than one scar is unusual, although it is generally known that protection is proportioned to the number of the scars. It would be well if health boards were to publish directions for the guidance of the public vaccinators.

These vaccinations of the poor constitute a part only of the protective work which has been done during the past month. Practicing physicians have been busy, and many intelligent persons have obtained vaccine points and made use of them without calling for medical assistance.

The vaccine points in the market have been uniformly active. In a series of 75 consecutive vaccinations, personally inspected, only one failure occurred. The freedom from injurious results in this wholesale vaccination is to be noted, and ought to allay the fears of such timorous individuals as are yet unvaccinated.

The result of these measures has been eminently satisfactory. In consequence of the limitation of means at the commencement of the epidemic sixty-five cases have occurred, or one-third less than the assessed damage, thus manifesting the influence of well-directed efforts even when the sanitary force was inadequate to guard against the danger at all points.

Time enough has now elapsed to show the impression made on the progress of the disease by the perfected service. The semi-monthly epidemic wave has been completely suppressed. Sporadic cases are to be expected for some time to come. They are liable to appear so long as a case remains under treatment in the city. But the epidemic flame has been "stamped out." This is the more gratifying in view of what might have been. In 1872 the disease was permitted to go on unchecked until it became a scourge to the District. Energetic measures, when ultimately adopted—such as have been employed in the present instance—suppressed the disease forty-nine days after their inauguration. The same elements of progress were in existence at this time. The ravages which the disease has effected in individual houses show what it might have done generally if left unopposed. In the Pratt family seven persons, two of whom died, suffered from the disease. In the Grason household there were five cases, with two deaths.

The repressive measures in 1873 cost the public nearly \$30,000. The present service has cost to date \$6,000. This, however, is the smallest item in the comparative accounts. The 627 deaths have but twelve to offset them in the present outbreak. The loss of life has a financial value which leads into the question of cost along with loss of time during sickness and permanent injury to constitutions by the sequelae of the disease. But the most important item in the bill, as financially considered, is the loss suffered by the manifold interests of the city on account of the presence of an epidemic and loathsome distemper.

The origin of the contagion which caused the sickness of Williams—the first case—remains in obscurity; but the progress of the disease indicates clearly that to him alone its subsequent spread is to be attributed. He was moved to the small-pox hospital on November 23, and died there on the 6th of December. Allowing fifteen days for incubation, nothing more should be heard of the disease until the period from December 14 to December 21, when cases originating from him should make their appearance. Accordingly it is found that on the 15th of December two cases of small-pox developed, followed by others daily until the 21st, when the progress of the disease appeared to be checked. This crop numbered 13 cases. The third crop of cases or wave of the disease should commence on the 29th of December, but its termination is undefined, as only 4 of the cases which originated it ended in death, the others continuing as possible sources of infection. However, the wave should be more strongly marked during the seven days following its commencement. On reviewing the records on file in the health office, many of which were verified by personal observation, it is found that although no cases developed from the 23d to the 25th December, on the 29th 3 cases appeared, on the next day 1, on the next 2, and on January 1, 5 cases. This crop numbered 35 cases. The period of the fourth impetus began on January 13, and was marked by 3 cases on the 14th; but although the disease should now be swelled by the offspring of the second and third series, only 16 cases made their appearance. The next period began on January 25, and to date, February 4, has had no case recorded; thus clearly indicating, as stated above, the success of the preventive measures.

The total number of cases is 65, of which 12 terminated fatally. No prediction for color was shown: the figures standing 31 white, with 5 deaths; and 31 colored, with 7 deaths; nor for sex, 32 female cases, with 9 deaths, and 25 male, with 3 deaths. The figures are too small to admit of generalization, but in the present instance they show increased mortality among the females and colored race.

In respect of age, 21 cases, with 6 deaths, were under 5 years; 23, with 2 deaths, were from 5 to 20 years; and 15, with 1 death, were

over 20 years of age. The extremes were both in fatal cases, one a colored man of 75 years, the other a white female child 24 days old. The life history of the latter consisted of her attack of small-pox. She was born in a house where three children—one of whom died—were affected, and exposure to the contagion must have taken place within three days after birth. On the 6th day she was vaccinated unsuccessfully. On the 15th day small-pox developed. On the 21th day she was reported to the inspector, and on the 25th day of life the case terminated.

Of the 65 cases, 28 had never been vaccinated; 5 of these died; 21 were reported as having been vaccinated from 2 to 50 years before; 4 of these died. Unsuccessful attempts to vaccinate were made in 13 cases, either immediately before or after exposure to contagion; 3 of these died. Vaccination was successfully performed in 3 cases after exposure; no deaths occurred among these. Few of the cases reported as previously vaccinated presented good evidence of the fact. The unsuccessful attempts recorded above resulted from the use of old and worthless points which were on hand and had to be used in the early period of the epidemic in default of a fresh supply.

The failure to subdue the disease in individual houses is attributable to the want of success in implanting vaccinia. The 65 cases occurred in 27 houses. In 13 the disease was not permitted to extend beyond its primary case. In the others the remaining 52 cases were distributed—an average of 3.7 cases per house. In one instance (Shelton), where a second case occurred among the children, the parents were prejudiced against vaccination, and would not permit the inspector to vaccinate. In another case (Enggitt), where 6 persons became affected, vaccination was declined on the ground that the family physician could attend to it. But the operations were not performed.

In concluding this report, I would respectfully invite attention to the faulty situation of the small-pox hospital, the *focus originis mali* in the present outbreak. Its proximity to the jail and asylum is dangerous. At the end of its present service it should be destroyed and its successor constructed on a more suitable site. That the disease was radiated from it during the period of Jesse Williams's illness seems manifest on examination of the progress of the outbreak. Yet, because it could not be traced directly in all cases from one to another, it has been suggested that each new case was a fresh development mysterious in its appearance as was the first one. A boy (Taylor) became affected, but so slightly that the disease was not recognized until four members of his family were seized. In the mean time he was at liberty on the streets. A colored man (Curtis) who must have been one of the second crop, was discovered at the railway station, Baltimore, suffering from the disease, and was quarantined by the authorities of that city. His bedding was in a house (Obmann's) in the southeast division, in which three cases afterward developed, one of which was fatal. In view of such facts the impossibility of tracing contagion in every case is not surprising. Every obscure case has been investigated personally and referred to communication with infected localities. It would seem useless to suggest that provision should be made to prevent an accumulation of unvaccinated people hereafter. This recommendation was made by the health officer at the termination of the 1873 epidemic, and as no action was taken then, with a large death record to sustain its advisability, it is hardly to be expected that it will meet with better fortune now. Reference is here made to this subject as a formal part of the duty which my instructions impose on me, and to strengthen as much as may be any suggestions which Dr. Townshend may offer to the District authorities in the premises.

SMALL-POX IN THE DISTRICT OF COLUMBIA.

Dr. S. Townshend, health officer, makes the following report for the week ending January 31:

During the week ending January 31, 1879, eight new cases of small-pox were reported at this office, and two deaths from the disease occurred. Of the cases reported five were white, three colored, three males and five females. None were removed to hospital. The disease, as classified, shows one case of varioloid, four cases of "distinct" and three cases of confluent small-pox. The four persons having distinct small-pox, and two of the three with the confluent form, had never been vaccinated. The case of varioloid was vaccinated when a child, and the third case of confluent only after infection.

Four persons were discharged from hospital during the week. About 21,000 vaccinations have been made, and the service throughout is progressing favorably.

REPORT ON SMALL-POX IN BALTIMORE.

By Dr. A. E. Carter, Health Officer.

Under date of February 5, Dr. Carter makes the following report on the recent appearance of small-pox in Baltimore:

On the afternoon of December 27, 1879, a man was discovered in the line of purchasers of tickets at Camden Station, Baltimore and

Ohio Railroad, who seemed to be suffering from some eruptive disease. The attention of Police Officer Lerp being called to him, he at once removed him to the Southern police-station, where he gave his name as Charles Cordes, of Washington. Vaccine Physician S. A. Bell was summoned to examine him, and pronounced it a decided case of small-pox. Cordes was immediately sent to the Marine Hospital for treatment. He was very ill, but finally recovered, and was dismissed a few days ago. Health Commissioner James A. Stenart, M. D., immediately issued the following order to each of our vaccine physicians, dated December 28, 1879: "In view of the near approach of small-pox, and the fact of a case being discovered in our city yesterday, it is important that you proceed immediately to visit your district and vaccinate thoroughly all who are unprotected by vaccination." This order was promptly obeyed.

Sunday, January 11, Vaccine Physician J. H. Scarff was requested to visit Mr. D. Newton Hill, residing at No. 65 North Eutaw street, and engaged in business at No. 44 South Howard street, one square from Camden Station. Dr. Scarff pronounced it a case of small-pox, and Mr. Hill was immediately removed to the Marine Hospital, where, after fearful suffering, he died on the 19th, having stated when first taken sick that a few days before, whilst engaged in marking some boxes on the sidewalk, a man who answered the description given him of Cordes, had asked him the way to Camden Station. He remarked to some one at the time "that the man looked like he had the small-pox," but thought nothing more about it until he was taken sick.

Tuesday, January 13, Vaccine Physician B. F. Phillips reported to me that a physician had requested him to call and see some patients of his who were sick with the chicken-pox, over a lager-beer saloon, at No. 512 West Pratt street. Dr. Phillips decided at once that it was small-pox, and requested me to advise Dr. Stenart of the fact. Dr. Stenart visited the family himself, confirmed the diagnosis of Dr. Phillips, and ordered the entire family, as they were all occupying the same rooms, to be sent to the Marine Hospital. This family consisted of Mr. and Mrs. Florn, four children, and Miss Florn. Mrs. Florn being quite ill, Dr. Howard, upon their arrival at the hospital, vaccinated all of them. The children were all sick with the disease, and one of them died January 27. The man Cordes had called in at the saloon, inquiring the way to Camden Station.

January 15, Mrs. Cordes, the proprietress of the saloon, was removed to the Marine Hospital quite ill with the same disease, and died there on January 24.

January 26, a man who had been boarding at this same house, but went off at the time of the removal of the family to the hospital, was discovered sick with small-pox at No. 73 Dover street, and sent to the Marine Hospital, where he is now lying very ill.

On Christmas Day this same man Cordes called at the house of Justice Pelerts, on the Frederick road, about four miles from the city, and asked for shelter, which Mr. Pelerts kindly gave him: the result was the death on January 9 of Mr. Poldman from small-pox (Mr. Poldman being a worker at Pelerts' and the attack of four members of Mr. Pelerts' family with the same disease, and also of Mr. Ran, one of the teachers at the academy, who had called to see Poldman, not being aware of the nature of his disease. Mr. Ran was sent to the Marine Hospital, was very ill, but is now convalescent. Each one of these cases is directly traceable to the man Cordes. I will mention that, in each case, by order of Dr. Stenart, the clothing, bedding, carpets, &c., were immediately destroyed, and the premises thoroughly fumigated with sulphur.

January 15, a case of varioloid was discovered at 421 McHenry street, in a child aged 13. When our sanitary inspector visited the house, 7 persons were in the room with the patient, whom the family refused to allow us to remove to the hospital. Vaccine Physician James Bosley vaccinated the entire family, and all who were in the room; but another case of varioloid has occurred there, and also one in a portion of the family who removed to another locality. This last-mentioned case was sent to the Marine Hospital. I cannot trace these cases to Cordes, but would not be surprised if they originated from him, as 421 McHenry street is on the route by which he entered our city.

MISCELLANEOUS.

PLAINFIELD, N. J.—In this city of 5,000 inhabitants recent ordinances establish the office of city physician and provide for the issue of burial permits, the recording of vital statistics, &c. A local board of health is also established, composed of the mayor, the president of the common council, and the corporation counsel, with the city physician as medical adviser and secretary.

NOTICE.—All official communications to the National Board of Health should be addressed to the Secretary, Dr. T. J. Turner. Correspondents, and others whose writing may be intended for publication, are reminded that much trouble is saved by writing on one side only of the paper.

Report of mortality in cities of the United States for the week ending January 24, 1880.
CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.																			
States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death rate per 1,000.	Consumption.	Croup.	Diarrheal diseases.	Diphtheria.	Fever, enteric.	Fever, malarial.	Fever, scarlet.	Fever, yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small pox.	Whooping cough.	Accidents.	All zymotic diseases.
Me. Bangor	20,000	2	2	5.2									1						
N. H. Concord	14,000	3	3	11.2			1						18						
Mass. Boston	375,000	63	171	33.7	35		3	3	18			1	2			1	5	6	34
Cambridge	50,000	4	16	25.1	1				5				2						
New Bedford	27,000	5	13	25.1	2								2						
Newburyport	13,000	2	6	32.3	1														
Marblehead	7,500	1	3	20.9	1														
Fall River	48,500	15	24	32.9	1							6	1						
Plymouth	23,000	4	10	23.5	1								1						
Lawrence	40,000	7	18	33.4	4		1	1	1				5	1		5		2	5
Worcester	52,000	8	26	36.0	5								1						
Lowell	52,000	11	21	31.0	4				1				1				1		
Lynn	37,000	5	11	15.5	2														
Brockton	12,000	3	3	13.0															
Chicopee	11,000	1	4	19.0									1						
Pittsfield	10,000		2	20.8	1			1					1						
Milford	23,000	3	6	13.6					3									1	
Somerville	31,000	3	12	20.1									6						11
Springfield	101,500	12	30	15.4	8		1		1			1							4
R. I. Providence	60,000	5	19	16.5	4		1				1	1	2						
Conn. New Haven	16,500	1	1	3.1															
Vt. Burlington	1,097,563	203	555	26.3	110		21	9	11	1	10	14	97	33	3	2	6	22	130
N. Y. New York	504,448	133	188	17.4	1		2	9	11		5	2	35	3	2		4	6	40
Brooklyn	19,000	4	7	8.2															
Yonkers	20,000	2	7	19.2	2														
Poughkeepsie	17,500	3	5	14.8	2													1	4
Newburgh	35,000		11	7.4															
Utica	25,000		6	16.7	10		1	1	2				1					1	
Rochester	18,000		3	8.7															
Binghamton	18,000		3	8.7															
N. J. Hudson County	193,000	18	67	17.5	7		2	1		1	5		14			2		1	3
Newark	125,000	16	60	25.0	11				4			1	1				4		
Pa. Philadelphia	991,380	6	274	16.8	48		6	5	8	9			6						
Erie	30,000	1	5	8.7	1														
Reading	40,110	5	11	14.2	3		1	1	13	2		5		7	1		2	3	23
Pittsburgh	145,000	33	64	23.0	1														
Del. Wilmington	44,000	4	12	14.2	5														
Md. Baltimore	40,000	17	126	36.4	24		6	1	11	8		5							
District of Columbia	170,000	32	76	22.3	22						1	2							
Va. Norfolk	24,000	3	13	28.2	2														
Richmond	89,000	13	25	16.3	5				3										
N. C. Wilmington	17,000	4	6	18.3					2										
S. C. Charleston	57,000	11	21	14.7	3			1	1										
Ga. Augusta	26,574	2	9	17.4	3														
Atlanta	41,514	9	13	16.3					1										
Fla. Jacksonville	10,000	1	5	26.0	1														
Ala. Mobile	40,000	3	11	14.3	2					1									
Miss. Vicksburg	15,000	2	3	10.4															
La. New Orleans	210,000	31	76	18.8	5		1	11						7		1	4	1	1
Shreveport	9,540	2	5	27.1	2														
Tex. Austin	15,500	2	7	23.5	2					1									
San Antonio	22,500		3	7.1															
Ark. Little Rock	22,000	1	8	15.4															
Tenn. Nashville	27,053	1	8	15.4															
Chattanooga	12,000	2	3	13.0															
Ky. Louisville	175,000	9	35	7.5			6	1				2							
Cincinnati	250,000	30	90	16.7	16				1	3	1			10				5	27
Cleveland	155,000	31	65	19.3	2		4	3	2			11		6				1	3
Dayton	170,000	31	65	19.3	2		4	3	2			11		6				1	3
Gallopia	29,000	3	11	14.7	3														
Ind. Evansville	5,500	1	3	28.4	1														
Indianapolis	35,500	1	11	15.3															
Richmond	29,000	12	35	18.6	1				4	1	2	4		3					
Ill. Chicago	14,000	5	5	18.6															
Peoria	57,621	76	171	16.6	17		11	4	28			1	11		11	1		1	59
Quincy	48,000	3	11	14.3															
Moline	35,000	4	11	16.3	2														
Wis. Milwaukee	7,000	2	2	14.9					1	1									
St. Paul	124,000	16	39	16.4	3		1	1	5			1	1						
Minn. St. Paul	51,600	4	8	7.1															
Iowa. Dubuque	20,000	1	4	6.9															
Keokuk	15,000	1	4	13.9															
Mo. Saint Louis	500,000	35	102	10.6	11	2	2	2	5	1	3		12	2				1	35
Kans. Lawrence	61,000	10	8.5	3	1	1	1	2	1										
Nehr. Omaha	41,600	1	4	6.9															
Utah. Salt Lake City	25,000	6	11	23.0															
Cal. San Francisco	300,000	23	71	12.8	15	1	2		2	3								1	1
Sacramento	25,000		2	4.3															
Totals.	8,166,392	591	2,814	17.9	437	83	59	159	48	27	97	332	43	22	11	32	78	454	

* Boston has 370,000 white, 5,000 colored; deaths, 169 white, 2 colored. Rate per 1,000, white 21.8, colored, 209. Marlborough has 7,473 white, 21 colored; deaths, 3 white, 1 colored. Rate in table. Lawrence, Mass., has 39,500 white, 200 colored; deaths, 15 white, 1 colored. Rate in table. Providence has 37,720 white, 3,780 colored; deaths, 29 white, 1 colored. Rate per 1,000, white 15.5, colored 13.8. Reading has 40,000 white, 750 colored; deaths, 11 white, 1 colored. Rate in table. Wilmington, Del., has 40,000 white, 400 colored; deaths, 7 white, 5 colored. District of Columbia has 144,000 white, 36,000 colored; deaths, 39 white, 37 colored. Rate per 1,000, white 15.8, colored, 17.4. Norfolk has 14,067 white, 9,913 colored; deaths, 9 white, 4 colored. Rate per 1,000, white 35.0, colored, 29.3. Augusta has 15,246 white, 11,628 colored; deaths, 5 white, 4 colored. Rate in table. New Orleans has 125,000 white, 55,000 colored; deaths, 18 white, 31 colored. Rate per 1,000, white 21.1, colored, 29.3. Jacksonville has 10,000 white, 16 colored. Rate per 1,000, white, 10.2, colored, 21.5. Mobile has 40,000 white, 11,000 colored; deaths, 3 white, 3 colored. Rate per 1,000, white 21.0, colored, 36.7. Vicksburg has 210,000 white, 16,000 colored; deaths, 3 white, 3 colored. Rate in table. Shreveport has 4,500 white, 5,000 colored; deaths, 2 white, 3 colored. Rate in table. Little Rock has 12,000 white, 13 colored; deaths, 2 white, 1 colored. Rate in table. Nashville has 12,000 white, 17.4 colored, 39.1. Chattanooga has 250,000 white, 15,000 colored; deaths, 30 white, 16 colored. Rate per 1,000, white 16.7, colored, 16. Cincinnati has 310,000 white, 15,000 colored; deaths, 31 white, 16 colored. Rate per 1,000, white 16.7, colored, 16. Louisville has 155,000 white, 15,000 colored; deaths, 31 white, 16 colored. Rate per 1,000, white 16.7, colored, 16. Indianapolis has 48,000 white, 12,000 colored; deaths, 12 white, 3 colored. Rate per 1,000, white 16.7, colored, 16. Chicago has 40,000 white, 11,000 colored; deaths, 3 white, 4 colored. Rate per 1,000, white 14.3, colored, 16.3. Quincy has 35,000 white, 4,000 colored; deaths, 4 white, 11 colored. Rate per 1,000, white 16.3, colored, 27.1. Moline has 12,000 white, 16,000 colored; deaths, 16 white, 39 colored. Rate per 1,000, white 16.4, colored, 23.5. Milwaukee has 15,000 white, 1,000 colored; deaths, 1 white, 4 colored. Rate per 1,000, white 6.9, colored, 209. St. Paul has 41,600 white, 4,000 colored; deaths, 4 white, 8 colored. Rate per 1,000, white 8.1, colored, 20. Dubuque has 20,000 white, 1,000 colored; deaths, 1 white, 4 colored. Rate per 1,000, white 6.9, colored, 20. Keokuk has 15,000 white, 35,000 colored; deaths, 35 white, 102 colored. Rate per 1,000, white 10.6, colored, 11.2. Saint Louis has 61,000 white, 10,000 colored; deaths, 10 white, 8.5 colored. Rate per 1,000, white 16.7, colored, 209. Lawrence has 8,478 white, 1,000 colored; deaths, 1 white, 6 colored. Rate in table. Omaha has 30,000 white, 1,000 colored; deaths, 1 white, 6 colored. Rate in table. Salt Lake City has 32,000 white, 6,000 colored; deaths, 6 white, 11 colored. Rate in table. San Francisco has 300,000 white, 23,000 colored; deaths, 23 white, 71 colored. Rate per 1,000, white 12.8, colored, 15. Sacramento has 25,000 white, 2,000 colored; deaths, 2 white, 4.3 colored. Rate in table. Total white population, 1,564,113; deaths, 592. Rate per 1,000, 16.7. Total colored population, 362,713; deaths, 180. Rate per 1,000, 26.6.

The following reports, for the week ending January 24, are from places in which burial permits are not required:

Alexandria, Va., 7,000; deaths, 13,000; deaths, 5; consumption, 1. Allegheny, Pa., 7,000; deaths, 9; under 5 years, 3; consumption, 2. Bath, Me., 10,000; deaths, 2; consumption, 1. Battle Creek, Mich., 7,500; consumption, 1. Bay City, Mich., 13,500; deaths, 7; under 5 years, 3; consumption, 1. Diphtheria, 3. Belfast, Me., 3,278; deaths, 3; lung diseases, 2. Beloit, Wis., 5,000; no deaths. Benton County, Miss., 11,000; deaths, 2; under 5 years, 1. Boulder, Col., 4,200; deaths, 2; measles, 1. Brattleboro', Vt., 6,500; no deaths. Brownsville, Tex., 6,500; one death, old age. Brownsville, Tenn., 4,000; consumption, 1. Calais, Me., 7,000; deaths, 3; under 5 years, 2; diphtheria, 1; pneumonia, 1. Cambridge, N. Y., 1,250; deaths, 2; diphtheria, 1. Carrollton, Miss., 600; no deaths. Chillicothe, Ohio, 12,000; deaths, 2. Circleville, Ohio, 6,400; consumption, 1. Clinton, Mich., 1,000; no deaths. Columbus, Ga., 10,000; deaths, 2; under 5 years, 1; pneumonia, 1. Dallas, Tex., 20,000; deaths, 3; under 5 years, 1; consumption, 1; puerperal, 1. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. Dunkirk, N. Y., 7,241; deaths, 2; pneumonia, 1. Fairfield, Conn., 4,000; one death. Fayette, Miss., 300; no deaths. Fernandina, Fla., 3,000; deaths, 1; under 5 years, 2; diarrhoea, 1. Helena, Mont., 3,500; deaths, 2; pneumonia, 1. Huntington, Tenn., 5,000; one death, under 5 years. Indianapolis, Tex., no deaths. Iuka, Miss., 1,000; one death, fever, 1. Jackson, Tex., 3,000; no deaths. Jeddah, Punjab, India, 10,000; no deaths. Jeffersonville, Ind., 10,000; deaths, 1; pneumonia, 1. Kenosha, Wis., 5,000; no deaths. Kingston, N. Y., 23,000; deaths, 10; under 5 years, 5; consumption, 1; malarial fever, 1; scarlet fever, 6; whooping-cough, 2. Lansingburgh, N. Y., 7,150; deaths, 7; under 5 years, 1; consumption, 3; diphtheria, 1; pneumonia, 1. Louisiana, Mo., 5,200; deaths, 2; consumption, 1. Madison, Ind., 12,000; consumption, 1. Marquette, Mich., 3,000; no deaths. Martinsburgh, W. Va., 6,000; deaths, 3; consumption, 1; diarrhoea, 1. Massillon, Ohio, <8000; whooping-cough, 1, under 5

years. Meridian, Miss., 5,000; lung diseases, 3. Milledgeville, Ga., 4,000; pneumonia, 1. Monmouth, Ill., 6,000; consumption, 1; enteric fever, 1. Monroe, Mich., 5,816; consumption, 1; pneumonia, 1. Mount Pleasant, Iowa, 5,000; one death. Muskegon, Mich., 13,000; deaths, 3; under 5 years, 2; diphtheria, 1; enteric fever, 1; whooping-cough, 1. Okolona, Miss., 3,000; diphtheria, 1. Orange, N.J., 12,000; deaths, 9; consumption, 3; pneumonia, 1. Painesville, Ohio, 5,000; one death. Pass Christian, Miss., 2,500; no deaths. Phenixville, Pa., 6,000; one death. Pontotoc, Miss., 600; no deaths. Pottsmouth, Va., 11,000; deaths, 4; under 5 years, 1; consumption, 2; bronchitis, 1. Raymond, Miss., 7,000; no deaths. Ripley, Miss., 1,000; no deaths. San Diego, Cal., 3,000; one death, under 5 years. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths, 3; under 5 years, 2. Saint Augustine, Fla., 2,500; 2 deaths; old age, 1. Tampa, Fla., 1,000; no deaths. Titonsville, Pa.; deaths, 3; consumption, 1; enteric fever, 1 (population not given). Tokeolaosa, Ala., 1,000; no deaths. Union, Pa., 1,000; deaths, 1. Waverly, Conn., 1,500; deaths, 8; under 5 years, 3; croup, 1; diphtheria, 1. Washburn, Miss., 500; no deaths. Wesson, Miss., 2,000; no deaths. Winchester, Va., 5,500; deaths, 1; under 5 years, 3; croup, 1; diarrhoea, 1; diphtheria, 1. Winona, Minn., 11,756; deaths, 1; under 5 years, 2; whooping-cough, 1. Youngstown, Ohio, 17,000; one death. Total population, 193,197; total deaths, 137; under 5 years, 35.

The following reports, for the week ending January 24, are from places requiring burial permits, and having less than 5,000 population:

Marblehead, Mass., 1,700; deaths, 2; rate, 1.2 per 1,000. Total population, 5,700; total deaths, 2; rate, 1.8 per 1,000.

MORTALITY IN FOREIGN CITIES. COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.	Yellow fever.	Small pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Vancouver's Island	Victoria	5,000	Jan. 10	1	10.9							24
Do	do	5,000	Jan. 18	2	20.5							36
Canada	Montreal	115,000	Jan. 24	69	26.7				1			30
Do	Kingsdon	16,000	Jan. 24	.....	.....							23
New Brunswick	St. John	46,000	Jan. 17	.....	.....							23
Do	do	46,000	Jan. 24	.....	.....							25
Cuba	Havana	195,475	Jan. 15	111	29.7			2	3			76
Hayti	Aux Cayes	8,000	Dec. 3	5	32.5							75
Do	do	8,000	Jan. 7	.....	.....							76
Mexico	Matamoros	16,000	Dec. 27	7	22.2							76
Do	do	16,000	Jan. 3	6	19.5							74
Do	do	3,500	Jan. 5	8	118.9							74
Do	Acapulco	3,500	Jan. 10	9	144.2							74
Do	do	3,500	Jan. 17	7	101.9							74
Azores—Fayal	Horta	7,600	Dec. 20	2	13.2							63
Scotland	Glasgow	569,798	Jan. 10	262	23.9							41
Do	Leith	58,000	Jan. 17	24	24.3							41
England	Bristol and Clifton	210,000	Jan. 10	139	34.4							37
Do	London	3,620,878	Jan. 10	1,544	25.2				22			48
Do	Liverpool	516,318	Jan. 17	214	38.5							34
France	Paris	2,988,806	Jan. 8	1,294	34.3				64			59
Do	do	2,988,806	Jan. 15	1,269	33.9				61			59
Switzerland	Basle	.....	.....	25	25.0							.....
Do	Zurich	122,473	Jan. 10	7	16.5							.....
Holland	Rotterdam	147,000	Jan. 17	100	64.1							.....
Saxony	Dresden	246,000	Jan. 3	110	18.7							.....
Do	Chemnitz	89,000	Jan. 3	41	24.0							.....
Bavaria	Munich	96,000	Jan. 3	58	34.7				1			.....
Germany	Frankfort	126,000	Jan. 3	65	27.7							.....
Do	do	126,000	Jan. 10	51	22.1							.....
Do	Bremen	165,000	Jan. 10	32	11.8							.....
Do	Berlin	1,060,500	Jan. 3	58	34.7				10	1	19	65
Do	Mannheim	48,000	Jan. 10	25	27.2							.....
Do	do	48,000	Jan. 17	39	32.6							.....
Do	Batmen	91,000	Jan. 10	41	24.5							.....
Do	Breslau	250,000	Jan. 1	115	24.8							.....
Denmark	Copenhagen	225,000	Jan. 6	122	57				10	1	1	.....
Italy	Leghorn	97,880	Jan. 17	54	29.2				1			.....
Austria	Trieste	125,751	Dec. 25	100	41.8							.....
Do	do	125,751	Jan. 1	94	40.2							.....
Do	Venue	747,225	Jan. 18	44	3.1							.....
Russian Poland	Warsaw	348,703	Jan. 3	169	26.2							.....
Sweden	Stockholm	163,129	Jan. 3	36	20.1							.....
Norway	Christiania	114,000	Dec. 25	25	11.9				1			.....
Do	do	114,000	Jan. 3	50	24.1							.....
Ireland	Tripoli	29,000	Dec. 25	22	55.1				0			50

REPORT ON VACCINATION AT THE U. S. NAVAL ACADEMY

In connection with the experiments now in progress, and conducted by Dr. G. M. Sternberg, of the United States Army, Dr. A. L. Gihon, Medical Director United States Navy, forwards the following report of vaccinations at the Naval Academy, Annapolis, during the last quarter of 1879:

The vaccination of the fourth class of cadet-midshipmen and cadet-engineers has resulted as follows: Total number vaccinated, 86; presenting evidence of former attack of small-pox, 1; presenting good cicatrices, 62; no evidence of previous vaccination, 21. The case protected by former attack of small-pox gave no result from vaccination; of the 62 presenting good cicatrices, the operation was successful in only 1 case; of the 21 not known to have been previously vaccinated, 4 operations were unsuccessful. In vaccinating this class, two ruptures of continuity were made in each case, and one of these was inoculated with virus which had been exposed for two hours to an atmosphere of perfectly dry sulphurous anhydride, SO_2 . Four different methods were used: by puncture, by incision with flap, by scarification, and by abrasion. The matter used was fresh bovine virus, in tubes, seals, and charged quills, furnished by the Naval Laboratory. The results are given above, and in no case did the virus treated with sulphurous anhydride produce any effect.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending January 24, represent a population of 8,166,392, being an increase of 14,820 over the preceding week. At the same time the number of deaths is 2,811, or 5 less than last week. The general annual rate of mortality is thus reduced from 18.0 to 17.9 per 1,000. The percentage of deaths under 5 years, which was 37 last week, has risen to 39.1 this week, a result chiefly due to an increase in diarrheal diseases, from 1.77 to 2.69 per cent.; in diphtheria and croup, from 8.1 to 8.6 per cent.; and in measles, from 1.05 to 1.53 per cent. of the total mortality. Scarlet fever and whooping cough remain stationary, the number of deaths from the former being only one less than last week, and from the latter exactly the same. Typhoid fever also remains the same, the 1st deaths this week being only 5 more than were reported last week. The percentage of deaths from consumption has increased from 11.1 to 15.5, while acute lung diseases have declined from 12.9 to 12.5 per cent. of the total mortality. Small-pox has this week caused 11 deaths, 5 in Worcester, Mass., 4 in Philadelphia, and 2 in the District of Columbia. The reports from which the table is made do not, however, always measure correctly the real extent of mortality from this disease in cities sending reports of deaths. In some cases the hospital for contagious diseases is without the city limits, and deaths of patients attacked by such diseases in the city and removed to the hospital are often not included in the city reports.

ABSTRACTS FROM CONSULAR REPORTS.

BATAVIA, JAVA.—United States Consul O. Hatfield, in his report for the week ending December 13, gives 13 new cases of small-pox and 3 deaths. Other diseases not ascertained. The "Java fever" among the shipping, mentioned in last report, has subsided.

CANTON, CHINA.—United States Consul F. D. Cheshire forwards reports for the weeks ending December 6, 13, and 20, but is not able to state the number of deaths. No epidemic prevails, but one fatal case of cholera, and several of typhoid fever are reported.

ISLANDS OF MALIA AND GOZO.—United States Vice-Consul C. B. Reynaud reports for the two weeks ending December 31 a total of 229 deaths, in a population of 153,598, giving an annual rate of 38.9 per 1,000. Seven deaths were from typhoid fever. The numbers from other causes are not given, but measles are reported as very fatal among children.

MESSINA, SICILY.—United States Consul George H. Owen reports for the month of October, 1879, a population of 76,906, and a total of 179 deaths; the annual rate of mortality was 27.9 per 1,000. Pulmonary and diarrheal diseases caused most of the deaths; only 3 were due to typhoid fever, and 1 to "other contagious" disease.

NASSAU, BAHAMAS.—United States Consul Thomas J. McLain sends reports for the weeks ending January 3, 10, and 17. The sanitary condition of the place is considered excellent, and about one hundred American invalids and tourists have arrived to spend the winter there.

NINGPO, CHINA.—The reports made by United States Consul Edward C. Lord for the weeks ending December 6, 13, and 20, show no marked change in the sanitary condition of this city. Diarrheal and malarial diseases are the chief causes of death, but no contagious disease exists to any extent. The number of deaths cannot be ascertained.

PARA, BRAZIL.—United States Consul A. C. Prindle reports for the month of December, 1879, a total of 106 deaths, in a population estimated at 40,000; the annual rate was therefore 31.8 per 1,000. Three deaths from small-pox and one from typhus fever are the only ones of which the causes are reported. Dysentery and malarial fevers are the prevailing diseases.

RIO GRANDE DO SUL, BRAZIL.—United States Consul John L. Frisbie, under date of December 26, reports that the city and district of his consulate enjoy a remarkable exemption from the zymotic diseases common to the cities of the tropics with which Rio Grande is in constant communication by lines of steamships, upon which no quarantine restrictions are imposed. The city is about eight miles from the sea-coast, and is situated between a river of the same name and a lake which formerly had no outlet. A canal, recently cut between the lake and the river, has removed the accumulation of refuse material which formerly polluted the waters of the lake. There is no sewerage in the city, but the surface drainage is excellent and the streets remarkably clean. The population of the place is about 15,000, and the latitude and climate correspond nearly with those of Savannah, Ga.

ST. THOMAS, WEST INDIES.—United States Consul V. Smith sends a condensed report of mortality for the year 1879. The total number of deaths, in a population of 15,000, was 576; but 15 of these, being still-born, should be deducted, leaving 561 deaths, and an annual rate of 35.4 per 1,000. Consumption caused 90 and malarial fevers 93 of the deaths. The deaths under five years are not stated, but 5 are noted as caused by diseases belonging to childhood. Only 21 deaths were caused by diarrheal diseases, which usually form a large element in the mortality of tropical climates.

SANTOS, BRAZIL.—United States Consul W. T. Wright reports for the three weeks ending December 31 a total of 32 deaths; the population being 11,000, the annual rate of mortality was 50.6 per 1,000, though no epidemic existed. Mean temperature, about 88°.

SWATOW, CHINA.—United States Consular Agent C. C. Williams reports 6 cases of typhus fever in hospital, but can obtain no record of deaths. Diseases and general condition of the place the same as described in a former report, page 224 of the BULLETIN. The last reports are for the weeks ending November 22 and 29.

VALPARAISO, CHILE.—United States Consul L. H. Foote reports that small-pox continues exceedingly fatal in this city, having caused 658 deaths in the month of November. There were 667 deaths from other diseases, giving a total of 1,325 for the month in a population of 101,100, and an annual death rate of 156 per 1,000.

VERA CRUZ, MEXICO.—United States Consul S. T. Trowbridge reports for the month of December, 1879, no epidemic or contagious disease in this city. The total number of deaths for the month was 82, being at the annual rate of 62.1 per 1,000 for a population of 13,550.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

REPORT ON PROVIDENCE, RHODE ISLAND.

By Dr. E. M. Snow.

Dr. E. M. Snow, superintendent of health and city registrar, under date of January 29, gives the following account of the diseases and mortality in this city:

The annual rate of mortality of the city of Providence, as shown by complete records of deaths during twenty-four years past, has been

19.68 in each 1,000 inhabitants. During the last five years the rate has been 19.35 in each 1,000. This rate is founded upon complete returns of deaths, and accurate censuses of the population.

In the aggregate mortality for twenty-three years, from 1856 to 1878, inclusive, of all the decedents from known causes, in each 100, consumption destroyed 16.95; pneumonia, 7.20 in each 100; cholera infantum, 5.81; scarlatina, 5.63; diseases of the heart, 4.56; diseases of the brain, 3.89; diphtheria (21 years), 3.52; typhoid fever, 3.24; apoplexy, 2.67; cancers, 2.32; croup, 2.32; and hydrocephalus, 2.33 in each 100. No other single cause has reached 2 per cent. in the aggregate mortality; but all diarrheal diseases, including enteritis, have been the reported cause of 11.67 per cent.

In the aggregate for twenty-four years small-pox has caused less than 1 of 1 per cent. of the total mortality, and measles only 0.63 per cent. Cerebro spinal meningitis, or spotted fever, has never become epidemic in Providence, and in the fifteen years since its modern appearance it has caused only 0.16 per cent. of the mortality. Nearly 4 per cent. of the total mortality in twenty-three years has been ascribed to old age, and in the same time 10.60 in each 100 of all the decedents have been over seventy years of age. Of the total mortality, the cause has been unknown or not stated in 1.72 per cent. of the deaths.

The preceding facts furnish a standard of comparison for the health of Providence. They may be considered the average mortality from various causes; but there are very great variations from this average, depending upon season, epidemic influences, and other causes. The percentage from consumption is quite uniform from year to year, and is but slightly influenced by season. The percentage has gradually decreased during the last thirty years, but the decrease is probably due chiefly to improved registration. Pneumonia varies greatly in different seasons of the year; but in the yearly aggregates, the extremes are 5.07 per cent. of the total mortality from known causes in 1877, and 10.20 per cent. in 1875.

The greatest variations in the percentage of mortality from different causes are in those diseases that sometimes prevail epidemically, and at other times almost disappear. Among these is scarlatina, which has prevailed as an epidemic in Providence five times during the last twenty-five years. The extremes of the percentage of deaths from scarlatina in Providence were in 1866 and in 1876. Thus in 1866 only 0.29 per cent. of the total mortality was caused by scarlatina, while in 1876 the percentage was 11, and in 1874 it was 13.66. The percentage of mortality from diphtheria was 0.46 in 1868, and 15.27 in 1877. In 1877 there were 255 decedents from diphtheria in Providence, and 291 from consumption, the only instance in twenty-five years when the mortality from any single cause exceeded that from consumption.

We may judge from the preceding the general character and characteristics of the mortality in Providence in past years.

At the present time and during the last five months consumption has continued its unchecked ravages with little variation from the average of past years; pneumonia has but about the average prevalence for the season, increasing as the winter has advanced; but typhoid fever has shown a remarkable decrease in mortality for the season. This is specially a disease of the autumn months in New England, though more prevalent and fatal in the country than in the city. During seven years previous to 1879, the least number of deaths from typhoid fever in Providence during the five months, August to December, inclusive, in any year, was 30; the greatest number in any year was 63; and the average was 41.2. During the same period, in 1879, there were only 11 deaths from this cause. So far as I can learn this decrease of fall fever was general, at least in this vicinity.

Scarlatina and diphtheria have been unusually prevalent during the last five months in this State and in the neighboring States. In Providence scarlatina has been epidemic since September last, and at times has been terribly fatal. During the five months, August to December, inclusive, there were 390 deaths reported from scarlatina, or 21.17 per cent. of the total mortality. In the month of December there were 71 deaths from scarlatina, or just one third of all the deaths. Since the 1st of January the disease has perceptibly diminished in fatality, though the number of cases of a milder type is as great as ever.

During the same five months of 1879 there were 54 deaths from diphtheria in Providence, but the disease was not epidemic, and this number of deaths was 60 less than in the corresponding period of the previous year. During the last five months there have been numerous instances of the two diseases, scarlatina and diphtheria, succeeding each other in the same individual, or existing at the same time in the same family, showing, as I think, that the local exciting causes of the two diseases are the same.

In the month of December last, regulations were adopted by the board of health of Providence requiring physicians to report promptly all cases of contagions, infections, or epidemic diseases. These regulations went into effect the 1st of January, 1880. The reports are as follows:

The whole number of cases reported during the first fifteen days of the month of January was 263. Of these, 76 were existing on the 1st day of January, leaving 187 cases that began between the 1st and the

15th of January, inclusive. The number and the character of the cases reported, of the different diseases, were as follows:

	Total of cases.	Mild.	Average.	Severe.	Malignant.
Scarlatina	119	21	52	40	6
Diphtheria	30	15	14	6	4
Fever typhoid	13	3	3	6	4
Erysipelas	3	2	1	1	1
Whooping cough	4	1	1	3	1
Chicken-pox	5	2	1	3	1
Cerebro-spinal meningitis	1	1	1	1	1
Measles	3	2	1	1	1
Total	187	46	72	58	11

During the same period, from the 1st to the 15th, inclusive, of the month of January, there were 21 deaths reported from scarlatina, 3 from diphtheria, and 1 from typhoid fever; but these deaths were not, necessarily, from the cases reported.

There seems to be considerable interest in the subject among our physicians, and we hope for valuable results from the reports.

AMSTERDAM, N. Y.—Dr. S. H. French, health officer, writes under date of January 27, that a local board of health has been organized but burial permits are not required. A detailed account of the recent outbreak of small-pox in the town will be furnished soon.

KENOSHA, WIS.—Dr. W. S. Saunders reports that no burial permits are required; but the sexton of the city cemetery makes a quarterly report of burials to the city clerk. A copy of the ordinance relating to health accompanies the letter.

LOCKHAVEN, PA.—Dr. J. C. Richards, under date of January 29, forwards a copy of an ordinance establishing a local board of health; and also a notice to the citizens issued by the board in the spring of 1879, giving excellent practical advice and instruction as to the use of disinfectants and other measures for the prevention of disease. At the same time a general and thorough cleaning of gutters, alleys, cellars, and porches was enforced throughout the town. The result was a marked decrease in malarial diseases during the autumn, while neighboring towns showed increased prevalence of such diseases. The stench arising from the gas-house and from a tannery having attracted attention as a nuisance, Dr. Richards investigated the matter, and concluded that, although offensive, the emanations from these sources were not injurious to the health of the adjoining population.

LOCKPORT, N. Y.—Dr. Francis W. Gallagher states that the population of this place was estimated in 1875 at 12,553. No mortuary records are kept by the authorities, and the returns made by the directors of the cemeteries are very imperfect, with the exception of the Roman Catholic cemeteries. For the year 1879 the deaths are estimated at 163, and the annual rate per 1,000, allowing for a supposed reduction of population, has been about 13.

OSWEGO, N. Y.—Under date of January 27, Dr. Eggleston Barrows writes that this town has no board of health, nor any provision for records of vital and mortuary statistics. Reports will be furnished as Dr. Barrows can collect the data.

WACO, TEXAS.—Dr. H. W. Brown sends the following account of this place:

Our city is situated on the Brazos River, which in flood time has water enough for a Mississippi steamboat, but usually only sufficient for canoe navigation. The river flows a course from northwest to southeast. We have a population of about 10,000—8,000 white and 2,000 to 3,000 black. The prevailing winds are from the South, reaching us over a dry and rolling prairie for many miles.

There is very little low or bottom land in the vicinity of Waco; hence the general good health of the citizens. The average rainfall and temperature have not been kept for some years. We have no board of health, but when any interest is manifested in the health of citizens the mayor and council have been in the habit of appointing a health officer *pro tempore*, and deputing a member of council from each ward to do duty as such in their respective wards. In case of small-pox or other contagions disease occurring, they have appointed myself to act as health officer, and when the danger is over the service is ended. Our city sexton is only required to make monthly returns of the deaths, but I am endeavoring to have them made weekly, with statement of causes.

National Board of Health

BULLETIN:

VOL. 1.]

WASHINGTON, D. C., SATURDAY, FEBRUARY 14, 1880.

[No. 33.]

INTERNATIONAL SANITARY CONFERENCE.

The following joint resolution, authorizing the President of the United States to call an International Sanitary Conference, to meet at Washington, District of Columbia, was introduced in the Senate February 2 (S. R. 73), by Hon. I. G. Harris; and on the same day in the House of Representatives (H. R. 195), by Hon. Casey Young. Referred to the Committees on Epidemic Diseases.

Resolved by the Senate and House of Representatives of the United States of America, in Congress assembled, That the President of the United States is hereby authorized to call an international sanitary conference to meet at Washington, District of Columbia, to which the several powers having jurisdiction of ports likely to be infected with yellow fever shall be invited to send delegates, properly authorized, for the purpose of securing an international system of notification as to the actual sanitary condition of ports and places under the jurisdiction of such powers and of vessels sailing therefrom.

PROPOSED LEGISLATION CONCERNING THE NATIONAL BOARD OF HEALTH.

The following bill "to increase the efficiency of the National Board of Health" was introduced in the Senate February 2 (S. 1182), by Hon. I. G. Harris, and on the same day in the House of Representatives (H. R. 4085), by Hon. Casey Young. Referred to the Committees on Epidemic Diseases.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the National Board of Health, or in the interval of its sessions its executive committee, as hereinafter provided, shall make report to the President of the United States, whenever any place in the United States is considered by it to be dangerously infected with contagious or infectious disease, and that upon the official publication, by the President, of such report, the transportation of goods or persons from such a place into a State other than that within which such place is, shall be unlawful, and all persons guilty thereof shall be liable to prosecution therefor in the circuit court of the United States for any district within which any part of such transportation shall go on; and any goods so transported shall be liable to be seized and destroyed, unless such transportation shall be carried on in accordance with rules and regulations made by the board, and approved by the President, as in other cases. These rules shall apply until the President shall proclaim such place no longer dangerously infected, and in the mean time the board, or its executive committee, shall make weekly reports, in writing, to him upon the sanitary condition of the place in question.

SEC. 2. That the commanding officers of all merchant vessels entering any port of the United States from any foreign port or ports situated between the parallels of 30° south latitude and 40° north latitude, or upon the Mediterranean Sea, shall, upon demand therefor, produce and deliver to the customs officer of the port of entry a bill or bills of health for such vessel, signed by the consul, vice-consul, or other consular officer of the United States at such port or ports of departure, or from the medical officer at such port or ports where one has been appointed or detailed for that purpose (such bill or bills to be in accordance with the forms and rules and regulations prepared for that purpose by the board and to be approved by the President), and in case of non-compliance herewith he shall be liable to the penalties provided for by section 1 of the "Act to prevent the introduction of contagious and infectious diseases into the United States," approved June 2, 1879.

SEC. 3. That whenever, upon an application by the board for a detail of a medical officer as provided in section 2 of the "Act to prevent the introduction of contagious and infectious diseases into the United States," approved June 2, 1879, it shall appear to the President that such detail cannot conveniently be made, and such decision

shall be notified by him to such board, the latter shall be authorized to appoint such medical officer at its discretion, and, if so appointed, his salary shall be defrayed from the appropriation under its control.

SEC. 4. That the board is authorized to confer, from time to time, upon an executive committee, consisting of not less than five of its members, such powers and duties as it may deem advisable, any extraordinary delegation of such powers to be in force only until the next meeting of the board, and thereupon to cease unless renewed.

SEC. 5. That the board is authorized to print its annual report for the year ending December 31, 1879, with the appended documents, and to have the necessary illustrations prepared for the same, at a cost not to exceed \$5,000.

SEC. 6. That section 3 of the "Act to provide office-rooms for the board, and other purposes," approved July 2, 1879, be, and the same is hereby, so amended as to provide that the cost of publishing and binding said report shall not exceed the sum of \$25,000.

ADULTERATION OF FOOD.

There appears to be a growing interest among sanitarians, legislators, and merchants in the United States with regard to the subject of the adulteration of food and the propriety of legislation for its prevention. One of the most practical steps which has been taken to secure satisfactory legislation on this subject is that taken by the National Board of Trade at its annual meeting in Washington, December 12, 1879, and at which the following resolution, offered by Mr. Thurber, of New York, was adopted:

Whereas the public mind has of late been considerably agitated by the alleged general adulteration of food; and

Whereas the question of pure and wholesome food and drink is one of great importance to the people of the United States; and

Whereas local attempts to regulate the sale of food have, on account of limited jurisdiction or other causes, generally proved inadequate for the purpose for which they were designed, and it is therefore important that wise laws (if possible, national in character) should be enacted which will afford adequate protection both to consumers and honest manufacturers; and

Whereas a member of this board offered to place \$1,000 at the disposal of the executive council of this board for a prize or prizes to be given for the best act or acts, accompanied by an essay, designed to prevent injurious adulteration and regulate the sale of food without imposing unnecessary burdens upon commerce; Therefore, be it

Resolved, That the president of the National Board of Trade be authorized to appoint a committee of experts, to be composed of five members, one of whom shall be a member of the medical profession, one a chemist, one a member of the legal profession, and one a merchant; said committee to examine and pass upon the merits of any acts or essays which may be submitted to them, and to award prizes therefor; the committee, as soon as possible after their appointment, to make public the necessary conditions, and when their labors are completed to place in the hands of the president of this board, an act designed to accomplish the purpose above described.

The terms of the competition, as finally decided on and published in the *Sanitary Engineer*, are as follows:

The aim of the competition is to obtain the best essay upon the subject of adulteration of food and drink in the United States, together with drafts of suitable State and national laws relating to this subject.

The object to be kept in view in preparing the essay shall be to show: (First) What are the usual deleterious adulterations of articles of food or drink in this country; (second) the effect of these adulterations on health and on trade; (third) the best means of detecting and preventing their recurrence with the least interference with commerce and with the least expense to the community; and (fourth) the reasons for the legislation proposed.

The draft of laws must be in such form that they can be at once submitted to State legislatures and to Congress for adoption. The different essays and drafts of acts must be written in legal form on foolscap paper, the writing to be only on one side of the sheet. The draft of the law must be on separate sheets from the essay. It is desirable to have side references summarizing the contents of each paragraph, for convenience of examination.

All extended quotations or citations of authorities must not appear in the body of the text of the essays, but be placed in an appendix by themselves.

The name of the author of the essay or act is not to appear upon it, but each one is to be marked with a selected word or motto to distinguish it. This motto, together with the author's name, is to be enclosed within a sealed envelope, indorsed, "To the Committee of Awards on Food Adulteration Act"; and this sealed envelope is to be inclosed within a second envelope, sealed and indorsed, "To the editor of the *Sanitary Engineer*, No. 110 William Street, New York."

This sealed envelope will be kept unbroken until after the committee of award have rendered their decision.

The time for the competition is limited to the 1st day of October, 1900, at noon.

The committee of award will consist of John S. Billings, surgeon United States Army, vice-president National Board Health, Washington, D. C.; Prof. Charles F. Chandler, president Board of Health, New York; Ex-Chancellor B. Williamson, Elizabeth, New Jersey; A. H. Hardy, esq., of Boston; John A. Gano, of Cincinnati.

The committee of award, on or before the 5th day of November next, if practicable, will select from such as are meritorious three essays and drafts of acts, and number them consecutively in the order of their merit as determined by the judgment of the committee, or by a majority of them.

To the author of draft and essay No. 1 will be paid \$500; to the author of draft and essay No. 2 will be paid \$300; to the author of draft and essay No. 3 will be paid \$200.

The numbered essays and drafts, with such others as the committee of award may designate, will be published in the *Sanitary Engineer*.

The committee of award reserve the right to publish any portions of the essays or drafts submitted to them which, in their view, may aid in the furtherance of the objects for which the competition was instituted.

Essays and drafts while in transit or in our custody, will be at the owner's risk. If it is desired to have them returned, it must be so requested, and postage stamps must be furnished.

THE MISSISSIPPI STATE BOARD OF HEALTH.

A bill is now before the legislature of Mississippi for amending the statutes in regard to boards of health, which is approved by the committee on public health and quarantine, and which has been prepared in the light of the experience of the last two years with yellow fever in the State or on its borders.

Sections 1, 2, 24, and 25 of the bill are simply repeating sections: the remainder of the bill being as follows:

Sec. 3. Be it further enacted, That the State board of health may elect or appoint an executive committee, to be composed of three of its members, with a chairman, to be designated by the board from the members appointed on said committee; and said executive committee shall have authority to exercise any and all the powers herein vested in said board, in the interim of the meetings of said board, whenever in cases of emergency in the opinion of said executive committee the public interests require such action: *Provided*, That the board, at any regular or called meeting, shall have full supervisory power over said executive committee, and may modify, or change, or annul any act or acts of said committee: *Provided further*, That any action of said committee shall be legal and binding until modified, changed, or annulled by said State board of health; and all pains and penalties prescribed in this statute shall apply to any violation of the rules and regulations that may be prescribed by said executive committee, under the provisions of this section.

Sec. 4. Be it further enacted, That the said board shall take cognizance of matters of health and life among the people of this State. They shall make inquiries in respect to the causes of disease, and especially of epidemics, and investigate the sources of mortality and the effects of localities, employments, and other conditions upon public health, and the causes of disease, and the best means of prevention of disease.

Sec. 5. Be it further enacted, That it shall be the duty of the said board to obtain, collect, and preserve such information relating to deaths, diseases, and health as may be useful in the discharge of its duties, and contribute to the promotion of health or the security of life in the State of Mississippi; and it shall be the duty of all health officers and boards of health in this State to communicate to said

State board of health copies of all their reports and publications, also such sanitary information as may be deemed useful; and said State board shall keep a record of its acts and proceedings as a board, and it shall promptly cause all proper information in its possession to be sent to the local authorities of any city, village, town, or county in this State, where said board may think that the same would be beneficial; and it is hereby made the duty of the health authorities of every county, village, city, or town in this State to supply like information and suggestions to said State board of health; and said State board of health is authorized to require information and reports at such times and of such facts, and generally of such nature and extent, relating to the safety of life and the promotion of health, as its by-laws or rules may provide, from all health officers in this State, and from all dispensaries, hospitals, asylums, prisons, and schools, and from the managers, principals, and officers thereof, and from all other public institutions, their officers and managers, lessees and occupants of all places of public resort in this State; but such information and reports shall only be required concerning matters and particulars in respect of which it may in its opinion need information for the proper discharge of its duties; said board when requested by public authorities, or when they deem it best, shall advise officers of the State, county, or local governments in regard to sanitary drainage, ventilation, and sanitary provisions of any public institution, building, or public place.

Sec. 6. Be it further enacted, That it shall be the duty of the said State board to give all information that may reasonably be requested concerning any threatened danger to the public health to the health officers of this State: all quarantine commissioners and all sanitary authorities shall, as far as legal and practicable, co-operate to prevent the spread of diseases and for the promotion of health within the sphere of their respective duties.

Sec. 7. Be it further enacted, That it shall be the duty of the State board of health on or before the first Monday in December preceding each session of the legislature of this State to make a report to the governor of this State in writing, who shall lay the same before the legislature at its ensuing session, upon the sanitary condition and prospects of the State; and said report shall set forth the action of said board, of its officers and agents, and the names thereof, since the last preceding report, and such matters in regard to local health authorities as may be deemed advisable, and may contain other useful information, and shall suggest further legislative action or precaution deemed proper for the protection of life and health and the prevention of disease.

Sec. 8. Be it further enacted, That it shall be the duty of the chief health officer of each county to report to the State board of health every matter involving the health of the county; to examine and report in regard to the ventilation of theaters, city halls, and public buildings generally, in regard to preservation of human life in case of fire; to make report of matters needing attention in public schools for the preservation of the health of the pupils; to report in regard to any matter calculated to affect injuriously the public health, and to report generally in regard to the public health of his county. It shall be his duty to correspond with the State board of health, and give to said State board any items that he may deem worthy of communication, and shall as often as required by said State board or the secretary thereof give information of any kind that he may be called upon to furnish. It shall be the duty of said county health officer to examine drinking-water in different localities, and if impurities be discovered to make the same known to the public, giving at the same time the means of purifying the same, and shall report on stagnant pools and other matters that would have a deleterious effect on the water used for domestic purposes, or that would cause malaria or be injurious to public health, whether the same be in private premises or public highways or elsewhere, and shall examine and report on market-houses and butcher-stalls, and any other matters that may, in the opinion of said health officer, have a tendency to injuriously affect the public health.

Sec. 9. Be it further enacted, That in all cases where such county health officer may make a report of any matter in his county calculated in his opinion to produce or to aggravate or cause the spread of any epidemic, endemic, or contagious disease, or in any way injuriously affect public health, the State board of health may declare the same a nuisance, and upon request of said board, it shall be the duty of the district attorney of that district to immediately commence proceedings by an information, in the name of the State, in the circuit court of the county to have the same abated as a nuisance, and if, in the opinion of the State board of health, the same is urgent, said board shall so state in its request to the district attorney, and also in a communication to the judge of the circuit court of the district, who may try the information on five days' notice to the parties interested, in vacation, and may suppress the same as a nuisance, allowing a writ of error, as if the case had been tried in term time, but there shall be no supersedeas, unless the judge in vacation or the court shall expressly allow the same by special order, and no supersedeas shall be granted where the public health, in the opinion of the court or judge, would thereby be injuriously affected.

Sec. 10. Be it further enacted, That the State board of health shall have power to make all rules deemed needful for enforced vaccination, for compelling reports to the health officers of the counties of yellow fever, cholera, scarlet fever, diphtheria, measles, or small-pox,

or other contagious or infectious diseases; and to make all rules and regulations that it may deem necessary to prevent the spread of any such diseases, and may cause persons so affected to be separated, and may order that families or establishments of any kind, where such diseases, or any of them, are supposed to exist, shall not leave the houses so affected, or shall be quarantined, and may make such rules as it may deem necessary for disinfecting premises where such diseases are or have been, and for disinfecting clothing or destroying the same; and any person violating such rules or regulations shall be fined for each offense in any sum not exceeding \$50, or by imprisonment in the county jail not exceeding one month, or by both such fine and imprisonment, at the discretion of the court having jurisdiction.

SEC. 11. *Be it further enacted*, That all incorporated towns in this State shall have the power to pass sanitary laws and to create boards of health, and to suppress as nuisances anything that is dangerous to public health, with full powers of enforcing ordinances for registration and mortality statistics: *Provided*, The same are not inconsistent with the rules and regulations of the State board of health and the constitution and laws of the State.

SEC. 12. *Be it further enacted*, That a chief health officer shall be appointed in each county in the State, by the governor, on the nomination of the State board of health, and who shall be a physician of well known sanitary attainments, whose term of office shall be for two years from the date of his appointment. The salary of said health officers to be the same as that of the county superintendents of education in their respective counties; to be paid semi-annually by county warrants to be issued in the same manner as general county warrants, and payable out of the general county funds. Any interior county remote from railways, navigable streams, and the seacoast, and having a sparse population, may be exempt from this statute, by application to the State board of health, made by the board of supervisors: *Provided*, That said board of health deems it prudent and proper to grant such exemption.

SEC. 13. *Be it further enacted*, That the governor may, at any time, on the recommendation of the State board of health, remove any chief health officer of any county and appoint a successor in the mode prescribed in the preceding section, whose term of office shall be two years from the date of his appointment.

SEC. 14. *Be it further enacted*, That the State board of health shall have the power to make all sanitary rules to be enforced in the several counties, and the chief health officers shall be required to enforce said rules in their respective counties.

SEC. 15. *Be it further enacted*, That the secretary of the State board of health shall furnish to the secretary of state, to be filed in the office of the latter, suitable forms for such printed blank books and printed blank forms as said board and the secretary of said board may need in the discharge of the duties prescribed by law; and it shall be the duty of the secretary of state to have printed and furnish to the State board of health, on the requisition of the secretary of said board, all the printed forms, blank books, as well as stationery, required by the board or the secretary thereof, which shall be paid for in the same manner as printing and stationery for the office of secretary of state.

SEC. 16. *Be it further enacted*, That the secretary of the State board of health shall receive an annual salary of \$1,200, payable quarterly, and for which the auditor of public accounts shall issue a warrant or warrants to said secretary; and the sum of \$1,200 annually is hereby appropriated for said purpose. Said secretary shall be elected by said State board of health biennially.

SEC. 17. *Be it further enacted*, That each member of the State board of health shall be paid the actual necessary expenses incurred by him in attending the meetings of the board of health, and in addition a per diem of \$5 for each day actually spent in such service, for which the auditor of public accounts shall issue a warrant to each member on the certificate of the secretary, countersigned by the president of the State board of health, and the sum of \$750 annually is hereby appropriated for said purposes: *Provided*, The said secretary of the State board of health shall not receive said per diem or expenses.

SEC. 18. *Be it further enacted*, That the power to establish quarantine in this State shall be vested alone in the State board of health, and said board, whenever it is deemed necessary to prevent the introduction of yellow fever or other infectious diseases from an adjoining State, shall have the power to establish quarantine stations at the limits of the State, at such places as may be deemed necessary, and said State board of health shall enforce at such stations such rules as may be adopted by said board with the approval of the governor of the State; and the sum of \$25,000 is hereby appropriated for said purposes and for the payment of all expenses incurred by the State board of health under the provisions of section 19 of this statute, but no part of this amount shall be used except it becomes absolutely necessary, and then the auditor of public accounts shall issue a warrant or warrants only on the certificate of the secretary of the State board of health, countersigned by the president of said board and approved by the governor of the State.

SEC. 19. *Be it further enacted*, That when the chief health officer of any county or any municipal board of health shall deem it necessary to establish a quarantine, application shall be made by said health officer or municipal board to the State board of health for power, and shall only enforce such rules as may be agreed upon by them and the State board of health, and the latter shall in all cases have supervi-

ory power over said quarantine; but if in the opinion of the State board of health it becomes necessary to establish a quarantine in any county, city, or town, and the local health authorities shall fail or refuse to do so, then the State board of health shall establish and conduct said quarantine at the expense of the State, the same to be paid for out of the appropriation provided for in section 1 of this act.

SEC. 20. *Be it further enacted*, That in all cases where quarantines are established by any county, city, or town in this State, under the provisions of this statute, the expenses of the same shall be paid by such county, city, or town by warrants issued by the proper county, city, or town officials, to be paid out of any general funds of the same, to be provided for by taxation, as other claims against said county, city, or town.

SEC. 21. *Be it further enacted*, That when yellow fever or other epidemic disease shall make its appearance in this State the State board of health shall take charge of the infected locality and enforce such rules as may be deemed necessary to prevent the spread of the disease, said rules to be adopted by said State board of health with the approval of the governor; and the sum of \$20,000 is hereby appropriated for this purpose, and for the expenses incurred under the provisions of section 23 of this statute, to be paid out on the same conditions as prescribed in section 1 of this act.

SEC. 22. *Be it further enacted*, That any person violating quarantine rules and regulations, made under the authority of this statute, or any rules and regulations made under the authority and provisions of section 21 of this act, published so as to be known by such person, shall, on conviction, be punished by a fine of not more than \$500, or imprisonment for not more than six months in the county jail, or in such manner as prescribed by said quarantine regulations, or by said regulations adopted under section 21 of this act, not exceeding the punishment herein prescribed; and any person or thing may be forcibly detained to compel observance of quarantine regulations, or regulations made under the authority of section 21 of this act, and shall be liable for all expenses of detention; and anything seized and held for quarantine, or under the regulations authorized by section 21, may be sold to cover the expenses of dealing with it.

SEC. 23. *Be it further enacted*, That if, in the opinion of the State board of health, it should be necessary to employ inspectors more effectually to accomplish the objects of this act, the said board shall have the power to appoint competent physicians for this duty; said inspectors to be paid, out of the appropriation provided for in section 21 of this act, a per diem not to exceed \$10 for the time actually employed on said duty, and their necessary expenses, to be paid out of the appropriation made in section 21 of this statute.

MISCELLANEOUS.

PROVIDENCE, R. I.—The following abstract of the report of Dr. E. M. Snow for the year 1879 will exhibit the course of the principal diseases in this city for the past two years:

The whole number of deaths in Providence during the year 1879 was 2,935, or 37 more than in 1878, 88 more than in 1877, 161 more than in 1876, 111 more than in 1875, and 29 more than in 1874.

The estimated population of Providence in 1879 was 101,200, which was undoubtedly a very low estimate. The rate of mortality for the year was, therefore, 19.96 in each 1,000 of the population, or one death in 50.09. The rate in 1878 was one death in 50.61; in 1877, one in 51.09. The returns of deaths are complete, and the estimate of population certainly below the truth. We may therefore claim that the rate of mortality is fully as great as the truth, and must be considered satisfactory as compared with other cities in the country.

The total deaths in 1879 were 37 more than in 1878; the male decedents were 35 more; the female decedents, 2 more; the married were 106 more; the single, 5 less; the widowed, 22 more; the divorced, 6 less. The white decedents were 31 more in 1879 than in 1878; the colored, 6 more. The natives of the United States were 19 more; natives of Ireland, 22 more. The decedents of American parentage were 52 more; of foreign parentage, 15 less.

The comparison of deaths from the different diseases in the last two years is as follows: The deaths from consumption were 293 in 1879, being 11 less than in 1878; from diphtheria 107, being 153 less; from pneumonia and congestion of the lungs 154, being 14 more; and from scarlet fever 252, being 195 more than in 1878.

The deaths from scarlatina in 1879 were more than in any previous year, except in 1868, when there were 265 deaths from the same disease. During the last five years, 1875 to 1879, inclusive, there have been 753 deaths from diphtheria and 1,356 from scarlatina in Providence.

There has been only one death in Providence from small-pox since May, 1873, a period of six years and eight months. During the year 1879 there were 1,120 persons vaccinated at the office of the superintendent of health, and 1,145 certificates of vaccination were given to children to attend the public schools.

NATIONAL BOARD OF HEALTH ROOMS are at 1110 G street, northwest.

Report of mortality in cities of the United States for the week ending January 31, 1880.—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Annual death-rate per 1,000.	Consumption.	Group.	Diarrheal diseases.	Diphtheria.	Fever, enteric.	Fever, malarial.	Fever, scarlet.	Fever, yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.	Whooping cough.	All zymotic diseases.	Accidents.
Mo. Saint Louis	500,000	29	92	9.6	16	3	2	6	2	3	2	.....	.....	1	3	.....	1	58	3
Kans. Lawrence*	8,478	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Neb. Omaha	30,000	4	9	15.6	2	.....	1	2	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Utah. Salt Lake City	25,000	5	19	39.6	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Cal. San Francisco	300,000	2	95	16.3	1*	3	.....	1	.....	.....	.....	.....	11	.....	1	.....	1	.....	.....
Sacramento	25,000	5	12	25.2	2	1	.....	1	.....	1	.....	.....	2	.....	.....	.....	.....	.....	1
Vallejo	5,000	.....	1	10.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	8,066,088	1,074	2,538	18.4	443	27	46	144	41	28	104	.....	346	39	41	5	45	440	74

* Boston has 370,000 white, 5,000 colored; deaths, 142 white, 3 colored. Rate per 1,000, white, 20.0, colored, 31.3. Marblehead has 7,479 white, 21 colored; deaths, 5 white, Rate in table. Lawrence, Mass., has 39,200 white, 210 colored; deaths, 15 white, Rate in table. Providence has 97,720 white, 3,750 colored; deaths, 15 white, 1 colored. Rate per 1,000, white, 30.4, colored 13.8. Reading has 40,000 white, 350 colored; deaths, 11 white, Rate in table. Wilmington, Del., has 40,000 white, 4,000 colored; deaths, 10 white, 2 colored. Rate per 1,000, white, 13.0, colored, 26.1. Baltimore has 343,715 white, 36,255 colored; deaths, 118 white, 20 colored. Rate per 1,000, white, 17.5, colored, 18.5. District of Columbia has 114,000 white, 20,000 colored; deaths, 33 white, 29 colored. Rate per 1,000, white, 15.1, colored, 27.2. Norfolk has 14,057 white, 9,903 colored; deaths, 5 white, 2 colored. Rate per 1,000, white, 18.5, colored, 10.5. Richmond has 46,000 white, 34,000 colored; deaths, 12 white, 12 colored. Rate per 1,000, white, 13.6, colored, 18.4. Wilmington, N. C., has 6,714 white, 10,286 colored; deaths, 1 white, 2 colored. Rate per 1,000, white, 7.7, colored, 10.1. Charleston has 25,000 white, 32,000 colored; deaths, 4 white, 13 colored. Rate per 1,000, white, 8.3, colored, 21.2. Savannah has 17,493 white, 15,163 colored; deaths, 5 white, 9 colored. Rate per 1,000, white, 11.9, colored, 30.9. Augusta has 15,406 white, 11,028 colored; deaths, 5 white, 5 colored. Rate per 1,000, white, 17.1, colored, 22.4. Atlanta has 25,373 white, 10,175 colored; deaths, 1 white, 7 colored. Rate per 1,000, white, 2.0, colored, 28.5. Jacksonville has 6,000 white, 4,000 colored; deaths, 2 white, Rate in table. Mobile has 2,000 white, 12,000 colored; deaths, 6 white, 7 colored. Rate per 1,000, white, 11.2, colored, 30.4. New Orleans has 155,000 white, 55,000 colored; deaths, 61 white, 32 colored. Rate per 1,000, white, 29.5, colored, 30.3. Shreveport has 4,500 white, 5,000 colored; deaths, 4 colored. Rate in table. Nashville has 17,555 white, 9,500 colored; deaths, 7 white, 7 colored. Rate per 1,000, white, 23.7, colored, 38.4. Chattanooga has 8,000 white, 4,000 colored; deaths, 1 white, 3 colored. Rate per 1,000, white, 6.5, colored, 39.1. Jackson has 5,000 white, 2,500 colored; deaths, 2 white, 2 colored. Rate per 1,000, white, 20.8, colored, 41.7. Clarksville has 3,000 white, 3,000 colored; deaths, 1 white, 3 colored. Rate per 1,000, white, 17.4, colored, 52.2. Louisville has 153,125 white, 21,875 colored; deaths, 27 white, 8 colored. Rate per 1,000, white, 9.2, colored, 19.1. Wheeling has 33,983 white, 1,017 colored; deaths, 37 white, 1 colored. Rate per 1,000, white, 56.8, colored, 51.3. Total white population, 1,616,250; colored, 370,000. Rate per 1,000, 18.4. Total colored population, 372,093; total deaths, 174. Rate per 1,000, 54.3.

THE following reports, for the week ending January 31, are from places requiring burial permits and having less than 5,000 population:

Brunswick, Ga., population, 3,000; 1 death. Edgartown, Mass., 1,700; no deaths. Franklin, Tenn., 1,800; no deaths. Morrisborough, Tenn., 4,000; no deaths. Nantucket, Mass., 3,000; 1 death. Shelbyville, Tenn., 2,000; 1 death. Total population, 15,500; total deaths, 3; rate per 1,000, 10.1.

The following reports, for the week ending January 31, are from places in which burial permits are not required:

Alexandria, Va., population, 13,000; deaths, 2; under 5 years, 1; croup, 1, pneumonia, 1. Allegheny, Pa., 75,000; deaths, 17; under 5 years, 7; consumption 5, croup 1, diarrhoea 3, diphtheria 1, enteric fever 1, lung diseases 2. Bath, Me., 10,000; deaths, 6; under 5 years, 1; consumption 2, diphtheria 1, puerperal 1. Battle Creek, Mich., 7,500; deaths, 2; pneumonia 1. Bay City, Mich., 12,500; deaths, 4; under 5 years, 2; consumption 1, diphtheria 1. Belfast, Me., 5,278; 1 death. Benton County, Miss., 11,000; 1 death, under 5 years. Boulder, Colo., 4,200; no deaths. Brattleborough, Vt., 6,500; pneumonia 1. Brownsville, Tex., 6,500; deaths, 5; under 5 years, 2; consumption 1, diarrhoea 1, malarial fever 1, puerperal disease 1. Cambridge, N. Y., 1,500; no deaths. Carrollton, Miss., 600; no deaths. Chillicothe, Ohio, 12,000; consumption 2. Circleville, Ohio, 6,100; deaths, 3; consumption 1. Clinton, Mich., 1,000; no deaths. Columbus, Ga., 10,000; no deaths. Crystal Springs, Miss., 1,000; no deaths. Cumberland, Md., 12,000; deaths, 2; consumption 1, diarrhoea 1. Dallas, Tex., 20,000; 1 death. Decatur, Miss., 1,000; no deaths. Fairfield, Conn., 4,000; consumption 1. Fayette, Miss., 300; no deaths. Ferdinand, Fla., 3,000; no deaths. Flint, Mich., 10,000; deaths, 2; under 5 years, 1; consumption 1. Fort Scott, Kans., 6,000; deaths, 2; diphtheria 1. Greenville, Ala., 1,500; 1 death. Green City, Mo., 125; no deaths. Huntington, Tenn., 5,000; no deaths. Indianapolis, Tex., 900; no deaths. Iuka, Miss., 1,000; no deaths. Jacksonville, Ill., 15,500; deaths, 1; consumption 1, pneumonia 1. Jefferson, Tex., 3,000; deaths, 2; under 5 years, 1; malarial fever 1. Jeffersonville, Ind., no deaths; population not given. Kenosha, Wis., 5,000; deaths, 3; under 5 years, 1. Kingston, N. Y., 25,000; deaths, 10; consumption 1, diphtheria 2, enteric fever 1, scarlet fever 1, whooping cough, 2. Lansingburgh, N. Y., 7,500; pneumonia 1, under 5 years. Lebanon, Pa., 9,000; deaths, 4; under 5 years, 1; consumption 1, lung diseases 2. Legansport, Ind., 15,000; deaths, 20; under 5 years, 9; consumption 2, croup 1, diphtheria 1, scarlet fever 5, lung diseases, 3. Louisiana, Mo., 5,200; consumption 1. Madison, Ind., 12,000; deaths, 5; under 5 years, 1; consumption 2, diarrhoea 1. Marquette, Mich., 3,000; consumption 1. Meridian, Miss., 5,000; deaths, 2; under 5 years, 1. Milledgeville, Ga., 1,000; lung diseases 2. Monroe, Mich.,

5,446; deaths, 3; under 5 years, 2; lung diseases 2. Mount Pleasant, Ia., 5,000; one death. Newcastle, Pa., 10,000; deaths, 2. Okolona, Miss., 3,000; no deaths. Orange, N. J., 12,000; deaths, 4; consumption 1, pneumonia 2. Oswego, N. Y., 23,000; deaths, 8; consumption 1, diphtheria 1, enteric fever 1, lung diseases 2. Paducah, Ky., 10,000; deaths, 2. Painesville, Ohio, 5,000; 1 death, under 5 years. Phoenixville, Pa., 6,000; one death, under 5 years. Pontotoc, Miss., 600; no deaths. Portsmouth, Va., 11,000; deaths, 8; under 5 years, 1; consumption 3, diarrhoea 1, diphtheria 1, pneumonia 1. Portsmouth, Ohio, 15,000; deaths, 2; consumption 1, pneumonia 1. Pulaski, Tenn., 2,100; deaths, 2; under 5 years, 1; consumption 1, croup 1. Rockland, Me., 7,000; deaths, 4; under 5 years, 1; consumption 2, croup 1. Sedalia, Mo., 12,000; deaths, 1; under 5 years, 1; consumption 2. Starkville, Miss., 1,163; no deaths. Stenleville, Ohio, 13,500; deaths, 5; under 5 years, 3. Springfield, Ohio, 20,000; deaths, 2. Saint Augustine, Fla., 2,500; no deaths. Summit, Miss., 2,250; no deaths. Tampa, Fla., 1,000; no deaths. Titusville, Pa., 9,000; pneumonia 1. Tuscaloosa, Ala., 4,000; old age 1. Waterbury, Conn., 16,000; deaths, 5; consumption 2, croup 2, pneumonia 1. Water Valley, Miss., 3,500; no deaths. Waxahachie, Tex., 2,000; no deaths. Waynesborough, Miss., 500; no deaths. Winona, Minn., 11,786; pneumonia 1. Youngstown, Ohio, 17,000; deaths, 7; under 5 years, 3; consumption 1, diphtheria 1, pneumonia 1, whooping cough 2. Total population, 595,170; total deaths, 167; under 5 years, 29.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending January 31, represent a population of 8,066,088, being 100,201 less than the number for last week; the deaths having at the same time increased from 2,511 to 2,538, the annual rate of mortality has risen from 17.9 to 18.1 per 1,000. The warm and damp weather has apparently been favorable to the spread of zymotic diseases, and while there is no marked change in the aggregate number of deaths from measles, scarlet fever, and whooping-cough, these diseases are more widely disseminated than before. The same may be said of small-pox, which shows a tendency to spread, but has been kept in check so far by such active measures of prevention and suppression as are detailed in the reports on the disease in the District of Columbia and in the letter of Dr. Woodward from Worcester, Massachusetts, to appear next week. The mortality from consumption and acute lung diseases for this week is 7.9, being exactly the same as for last week; but the diminished population shows an actual increase in the proportion of deaths from these causes. The general course of the zymotic diseases in January will be more fully considered in the review for the month.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO THE NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Vancouver's Island	Victoria	5,000	Jan. 24	2	20.8								42.00
Canada	Montreal	155,000	Jan. 31	55	38.9								34.78
Do	Kingston	16,000	Jan. 31	1	6.2								35.30
Do	St. John's	3,000	Jan. 31	1	33.3								
Bermuda	Hamilton	14,867	Jan. 27	4	14.1								
Do	Do	14,867	Feb. 3	3	13.5								
West Indies	Antigua, St. John	12,666	Dec. 21	15	74.1								
Do	do	12,666	Dec. 14	15	74.1								
Do	do	12,666	Dec. 21	15	74.1								
Do	do	12,666	Dec. 28	20	82.4								
Do	do	12,666	Jan. 4	15	61.7								
Do	Pointe à Pitre	22,919	Dec. 20	10	24.7								
Do	do	22,919	Dec. 28	17	38.7								78.4
Do	do	22,919	Jan. 3	11	25.6								79.9
Do	do	22,919	Jan. 10	16	36.4								80.0
Mexico	Merida and Progreso	41,500	Jan. 16	31	74.7								
Do	do	41,500	Jan. 23	27	65.1								
Azores-Payal	Horta	7,630	Dec. 27	3	39.5								62.0
Do	do	7,630	Jan. 3	3	39.5								61.0
Do	do	7,630	Jan. 10	0	0								58.0
Do	do	7,630	Jan. 17	1	6.8								66.5
Teneriffe	Santa Cruz	16,640	Jan. 3	9	54.3								66.5
Ireland	Queensdown	10,100	Jan. 24	1	9.9								38.0
Do	Ballast	232,000	Jan. 17	132	32.5								30.34
Scotland	Glasgow	558,106	Jan. 17	270	24.3								37.2
Do	Dundee	155,000	Jan. 17	64	21.5								37.2
Do	Leith	38,000	Jan. 24	29	36.8								37.2
England	Bristol and Clifton	210,000	Jan. 22	26	13.3								37.2
Do	London	3,620,508	Jan. 17	1,700	21.9								33.1
Do	Sheffield	295,138	Jan. 17	158	37.8								34.0
Do	Southampton	207,138	Jan. 17	105	22.2								34.0
Do	Seventy-four	146,948	Jan. 10	61	21.6								34.0
Do	do	146,948	Jan. 17	76	29.6								34.0
Do	Liverpool	558,338	Jan. 24	285	29.6								31.8
France	Paris	1,388,806	Jan. 22	251	33.5								32.5
Do	Lyons	22,008	Jan. 17	57	32.3								32.5
Switzerland	Zurich	22,008	Jan. 17	5	11.6								27.33.0
Holland	Amsterdam	308,552	Jan. 16	226	41.5								4.0
Do	Rotterdam	145,000	Jan. 23	29	20.0								2.0
Belgium	Antwerp	169,981	Jan. 3	103	33.1								3.2
Do	do	169,981	Jan. 10	63	19.3								3.2
Do	do	169,981	Jan. 17	80	27.3								3.2
Do	do	169,981	Jan. 24	251	29.2								3.2
Germany	Dresden	394,182	Jan. 17	251	29.2								3.2
Do	Frankfurt	128,000	Jan. 17	52	21.5								3.2
Do	Bremen	165,000	Jan. 17	47	23.3								3.2
Do	Berlin	1,062,500	Jan. 10	214	25.2								3.2
Do	Hamburg	93,000	Jan. 17	53	29.7								3.2
Do	Mannheim	48,000	Jan. 24	28	30.4								3.2
Do	Breslau	270,000	Jan. 10	136	26.3								3.2
Saxony	Dresden	218,000	Jan. 10	109	19.2								3.2
Do	do	218,000	Jan. 17	127	15.3								3.2
Do	Leipzig	104,000	Jan. 17	76	24.7								3.2
Do	Chemnitz	89,323	Jan. 10	12	21.6								3.2
Germany	Stuttgart	108,225	Dec. 27	66	32.5								3.2
Do	do	108,225	Jan. 3	50	24.6								3.2
Bavaria	Nuremberg	90,000	Jan. 10	38	22.1								3.2
Denmark	Copenhagen	225,000	Jan. 14	108	25.1								3.2
Italy	Palermo	219,308	Dec. 28	94	22.3								3.2
Do	do	219,308	Jan. 1	21	10.1								3.2
Do	do	219,308	Jan. 11	86	26.4								3.2
Do	Lezhova	97,880	Jan. 24	78	41.6								3.2
Do	Naples	458,611	Nov. 15	232	26.3								3.2
Do	do	458,611	Nov. 23	230	25.0								3.2
Do	do	458,611	Dec. 6	275	31.2								3.2
Austria	Vienna	575,285	Jan. 3	468	34.1								3.2
Do	Trieste	127,523	Jan. 10	8	36.3								3.2
Russian Poland	Warsaw	398,264	Jan. 17	106	27.7								3.2
Norway	Christiania	116,000	Jan. 10	27	12.5								3.2
Spain	Gibraltar	19,600	Jan. 3	9	24.7								3.2
Do	do	19,600	Jan. 11	7	19.2								3.2
Morocco	Casablanca	6,200	Jan. 3	2	32.0								3.2
Do	do	6,200	Jan. 10	9	24.1								3.2
Barbary	Tripoli	20,000	Jan. 10	9	24.1								3.2
Do	do	20,000	Jan. 17	12	31.3								3.2
Cap Colony	Cape Town	35,000	Jan. 24	24	41.7								3.2
Do	do	35,000	Jan. 31	30	58.0								3.2

NOTICE.—All official communications to the National Board of Health should be addressed to the Secretary, Dr. T. J. Turner. Correspondents, and others whose writing may be intended for publication, are reminded that much trouble is saved by writing on one side only of the paper.

NOTICE.—In filling the reports on the postal cards for

cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may be intended for publication, and others whose writing may be intended for publication, are reminded that much trouble is saved by writing on one side only of the paper.

NOTICE.—The total numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables.

YELLOW FEVER IN CATTLE-SHIPS.

[By Dr. Charles Smart, Assistant Surgeon, United States Army.]

Dr. Smart submits the following notes, February 5, on the subject of the supposed immunity of cattle-ships from yellow fever, and on the disinfecting power of ammonia:

When in Memphis recently the writer was informed by several medical men of large experience that yellow fever was unknown on board of cattle-ships; that the immunity of such vessels was well recognized by all "river men." Unfortunately, at the time, there was no opportunity for determining whether this belief was well founded or was the result of generalization from local cases, limited in number, in which the freedom from the disease was owing to avoidance of the cause rather than to any special protective influence exercised by the nature of the traffic. If it is true that an aggregation of cattle destroys the energy of the fever poison the fact should be more generally known. An investigation of the conditions present would be of value.

Viewing the matter from the standpoint of those who believe the immunity to be proved, the most noticeable of the unusual conditions is the ammoniacal odor. Alkalinity of medium promotes the growth of low forms of vegetable and animal life; but in a case of this kind investigation should proceed irrespective of preconceived ideas. Ammonia is therefore suggested as a possible disinfectant or germicide in the case of yellow fever, but the conditions necessary for an experimental test are difficult of attainment. Infected articles can easily be bad, but not so the proof of disinfection.

In the mean time, as a general vaccination was in progress in the District of Columbia, an opportunity was afforded of testing the influence of ammonia on the vaccine virus. If potent as a destroyer in this case, the probabilities would be in favor of its efficacy in yellow fever. But, as small-pox is known to have been imported in cattle-ships, the retention of power in the vaccine after treatment by ammonia would leave the question *in statu quo* so far as regards yellow fever.

Some experiments were conducted with the assistance of Doctors Samson and Stone, of the District of Columbia health office. These gentlemen kindly undertook to implant the virus and note the results. Had the experiments resulted differently a report in full of each would have been prepared; as it is, a summary of results only is necessary.

Twenty-six vaccine points were variously treated with ammonia. They were numbered, and a record was kept of the treatment to which each had been subjected. A numbered point of untouched virus was paired with each of the experimental points. These pairs were used on unvaccinated children, one point for each arm, the vaccinators remaining in ignorance of the history of the points.

When the vaccination return was completed the cases were verified, in part by Dr. Sternberg, U. S. A., and in part by the writer. The return was then compared with the recorded history of the points, and the success or failure of each was noted on the latter.

The treatment consisted in exposure under a bell-glass to atmospheres evolved from various quantities of 26 per cent. ammonia solution up to one volume of the solution in two thousand of contained air, and for periods ranging from half an hour to twenty-four hours. Some of the points were exposed dry, and some after having been moistened with distilled water, some within half an inch of the ammoniacal liquor and some six inches above it, while several were simply dipped into solutions of a strength varying from one-half of one per cent. to 26 per cent.

Of the twenty-six ammoniated points three failed to induce vaccination, but as others which had been exposed to a more severe treatment were successful, while at the same time two of those recorded as pure appeared in the list of failures, no value can attach to the first-mentioned results.

So far as the vaccine virus is concerned, ammonia as employed in these experiments would seem to have no disinfectant power; while, as regards yellow fever, the question reverts to its original standing: Is it a fact that cattle ships never become infected?

ABSTRACTS FROM CONSULAR REPORTS.

ANTIGUA, W. I.—January 22, United States Consul Chester E. Jackson, states that a fever which has recently prevailed there, and caused 8 deaths out of about 35 cases, is declared non-contagious by the resident physicians, one of whom has practiced on the west coast of Africa, and pronounces the fever at Antigua identical with the well-known fever of that coast. Mr. Jackson is satisfied that the disease is not yellow fever, and clean bills of health are given.

PAYAL, AZORES.—Under date of January 10, United States Consul S. W. Dabney observes that the reports from this island present but little variation, owing to the uniformity of climate and temperature and the absence of epidemic diseases. At this season the weather is generally damp, and rheumatism prevails, with some diarrheal diseases. Of late years consumption has become quite common. The

reports include only the population of the town of Horta, about 7,630; the whole island contains about 25,100 inhabitants, and in this number there were 435 deaths in the year 1878, giving an annual death-rate of only 17.3 per thousand. The mean temperature, deduced from observations throughout the year, was 62°, the extremes being 80° and 44°; the exact coincidence of the mean of these numbers with the mean obtained from the whole series of observations shows the remarkable uniformity of the variations in temperature above and below the mean.

POINTE-À-PITRE, GUADALOUPE.—Under date of December 20, United States Consul Charles Bartlett writes that the local board of health has declared the sanitary condition of this port to be "not satisfactory," as cases of *bilious fever* of a suspicious nature are prevailing, one of which proved fatal on the 15th of December. In consequence of this declaration, the commissary of marine directed the captain of the port to visit all vessels in harbor, and request the captains to keep their crews on board, and send to hospital without delay any who were taken sick. Any captains neglecting to comply with this request were to be reported to the authorities. A notice to this effect was posted in the consular office. These measures were in pursuance of an order of the governor of Guadeloupe, dated December 16; the consular police also states that similar regulations had been sent by the National Board of Health of the United States.

PORT AU PRINCE, HAYTI.—The Department of State forwards a letter, dated January 9, from Consul-General J. M. Langston, stating that yellow fever had appeared at St. Marc and at Miragoane. At the latter port it was confined to the shipping, and was reported extinct on the 24th of November by the consular agent there. At St. Marc, a report of December 31 stated that several European seamen were sick with the fever in private hospitals. The consul there did not regard the fever as "epidemic," but very properly declined to give clean bills of health. No American seamen are known to have been attacked. Port au Prince is reported unusually free from contagious or infectious diseases of all kinds.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

ATLANTA, GEORGIA, January 30.—Dr. James B. Baird sends the following extract from the official mortuary reports, with remarks:

Noting the remarks in recent numbers of the BULLETIN in which reference is made to the relative mortality of the whites and blacks in the Southern States from particular diseases, it occurred to me that it might be profitable to present a brief extract from the official mortuary reports of this city for the last six months of the past year—from July to January—compiled by myself as secretary of the municipal board of health.

The principal causes of death were:

1. *Consumption*.—White, 15, or 1.1 per 1,000 per annum; colored, 21, or 2.5 per 1,000.

2. *Acute lung diseases*.—White, 5, or 0.39 per 1,000; colored, 14, or 1.7 per 1,000.

3. *Thoracic diseases*.—White, 30, or 2.3 per 1,000; colored, 42, or 5.1 per 1,000.

4. *Typhoid fever*.—White, 12, or 0.94 per 1,000; colored, 7, or 0.86 per 1,000.

5. *Malarial fevers*.—White, 2, or 0.15 per 1,000; colored, 2, or 0.24 per 1,000.

6. *Chenism*.—White, 1; colored, 1.

I shall not presume to assert that these figures represent the death-rate of the negro as compared with the whites throughout this State or all of the Southern States, or even that the proportions here indicated will hold good when a more extended comparison is made in this particular locality; but the facts as stated are certainly suggestive, and I believe that they will not be materially altered when the comparisons cover a much larger territory and embrace a much longer period of time.

Another influential element in Southern mortuary statistics is the deaths that occur among white persons who have taken up their residence in southern latitudes on account of anticipated, threatened, or actually existing pulmonary trouble. This fact, taken in connection with the excessive mortality of the negro population from consumption and other lung diseases, will fully account for the relatively larger number of deaths from this class of diseases in the Southern as compared with the Northern section of our country. It is true that the mortality among the negro race is a part of the common mortality of the State, but our colored citizens are so unlike any other class of persons in many particulars, that a comparison upon the same basis would be eminently unjust. The causes giving rise to the unequal death-rate of the two races may be discussed at another time.

IOWA CITY, IOWA.—February 2, Dr. E. F. Clapp states that burial permits are not required, and that there is at present no board of health.

National Board of Health BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, FEBRUARY 21, 1880.

[No. 34.]

QUARANTINE CONFERENCE.

The National Board of Health requests that all quarantine authorities of the United States will send authorized representatives to meet with it in Washington on the 5th of May next, for the purpose of amending the rules and regulations prepared by the Board last year and recommended by it to State and local quarantine authorities for adoption.

It is extremely desirable that not only maritime quarantine, but the keeping up communication with the infected places in the interior, shall be managed throughout the country upon uniform principles, and in such a manner as to secure a satisfactory amount of protection to communities with the least interference with commerce.

The minor details may vary according to local peculiarities, but the broad general principles should be the same everywhere.

What are usually called the Rules and Regulations of the National Board were prepared and issued by it in haste to meet an emergency, and, although defects in these rules were soon seen, it was not deemed expedient to attempt to correct them until the quarantine season was over, when they could be amended at leisure. To this end, and as a necessary preliminary to the convention, all persons interested, and especially all who have had practical experience as quarantine officers, are respectfully invited to at once carefully examine their rules, and to forward to the Board, as soon as possible, their suggestions for additions or changes. All these suggestions can then be embodied in a schedule which will thus be prepared for the convention, so that its work can be done rapidly and intelligently.

Those who have not a copy of the rules and regulations referred to will find them in the first number of the Bulletin, or can obtain one by addressing the secretary.

ABSTRACTS FROM CONSULAR REPORTS.

GHEENT, BELGIUM.—In a letter dated January 27, United States Consul A. Lefebvre gives the following notice concerning vaccination: It will be observed that of 272 deaths in that city during the month of November, as reported on page 232 of the BULLETIN, there was but one death from small-pox. The advertisement in the local papers is as follows:

The mayor of Ghent earnestly invites the inhabitants of the city, and especially the working classes, to be vaccinated or re-vaccinated. For this purpose they may apply *gratis* to the vaccine commission at all times. During the whole year, excepting the summer months, a fee of one franc (20 cents) will be allowed to all who will come and prove to the vaccine commission that they have been successfully vaccinated.

VIENNA, AUSTRIA, January 6, United States Consul J. R. Weaver sends the following statistics for the year 1879:

The population is estimated at 737,255. The births were 7,974 males and 7,750 females, legitimate: 6,361 males, 5,559 females, illegitimate. Total births, 27,317, being at an annual rate of 37.9 per 1,000 of population. The still-births were 1,370, or 1.9 per 1,000 of population, and 1.67 per cent. of all births. The deaths from all causes numbered 20,900, giving an annual rate of mortality of 28.4 per 1,000. The deaths from the principal diseases, with the annual rates per 1,000 of population, were as follows: Consumption, 5,141, rate, 6.97; lung diseases, acute, 2,731, rate, 3.71; diseases of the brain, 1,304, rate, 2.57; diseases of digestive organs, 1,388, rate, 1.88. The deaths from 23 mortal diseases were, from diphtheria, 657; small-pox, 351; typhoid fever, 157; and measles, 155. Of the deaths, 5,391 were under 1 year, and 3,159 between 1 and 5 years of age; total under 5 years, 8,550, or 10.9 per cent. of the total mortality.

BERMUDA.—United States Consul C. M. Allen, under date of February 3, states that H. M. training-ship *Atalanta* arrived at Bermuda January 29, from Barbadoes, at which port she had entered, direct from England, January 1. She left Barbadoes on the 9th, and two days later a case of yellow fever occurred on board, proving fatal in five days. January 15 a second case occurred. The ship left Bermuda for England January 3.

CALCUTTA, PERU.—Under date of January 15, United States Consul R. T. Clayton announces the subsidence of the epidemic of small-pox which had prevailed there for several months past, and states that he has resumed the issue of clean bills of health. During the month of December, 1879, there were 31 deaths from all causes, being at an annual rate of 26.1 per 1,000, estimating the population at 30,000. The chief causes of death were malarial fevers, 18; small-pox, 12; consumption, 11, and dysentery, 5. Lung diseases caused 13 deaths, and taken with consumption represent 25.1 per cent. of all deaths, being about the same ratio as that observed in the United States. But the proportion of deaths from these diseases to the whole population is much greater in Calcutta, being 2.6 per 1,000, as compared with 5.09 for the United States.

ISLANDS OF MALIA AND GOZO.—United States Consul C. B. Lyman notes, in his report for the two weeks ending January 15, an epidemic of measles, which caused 55 deaths out of 217 for the two weeks, being 25.1 per cent. of the deaths; the annual rate of mortality from all causes was 26.8 per 1,000.

ST. JOHN, NEW BRUNSWICK.—United States Consul D. B. Warner reports 79 deaths from all causes, during the month of January, in a population of 40,000; the annual rate was 20.6 per 1,000, but the diseases are not specified. Mean temperature for the month, 33.4.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

BURLINGTON, VT., February 10.—Dr. George M. Ockford states that during the month ending at the above date the city has been very healthy, and free from all contagious diseases excepting sporadic cases of whooping-cough. Diphtheria and dysentery have been the prevailing diseases, contrary to the usual course at this season, while the affections of the respiratory organs are normally expected in winter, have been comparatively rare. The rate of mortality for the month of January was only 5 per 1,000 per annum, being the lowest noted for any month since the registration of statistics began, in June, 1878.

STAMFORD, CONN., January 31.—R. S. Sargent, warden, reports that the population of the town and borough is about 11,000. There is no State law requiring burial permits; only monthly reports of mortality can be made.

CLEVELAND, OHIO.—Under date of February 9, Dr. J. H. Lowman gives the following account of the general sanitary condition of this city, and of an epidemic of scarlet fever now prevailing there:

The sanitary interests of the city of Cleveland are confided to a board of police commissioners. The aim is to have at least one physician on the board, and to his judgment questions of public health are referred. A health officer is elected and controlled by the board, and he constitutes its executive officer. His subordinates are clerks and sanitary policemen or inspectors. The police interests of the city are so extensive that a large proportion of the funds and those of the police board must be devoted to them, which naturally leaves the health department crippled. Earnest and intelligent citizens demand an independent health commission. There is now pending before the State legislature a bill looking to the creation of a State board of health; said board to be composed of five physicians, one being a homoeopathic, and one an eclectic physician.

The present administration of the public health department of the city is of but three years' duration, and was the outcome of a so-called political necessity. Under the regular health board, immediately preceding, good sanitary machinery was put in motion and continues to run well. Public health is good. Abattoirs, chemical, fertilizing, glue, and oil works are on the outskirts, and their fumes only occasionally reach the city. The water-supply is abundant and good. It comes through a tunnel, the entrance to which is in Lake Erie, one and a quarter miles from the shore, and a mile above the river's mouth. This has been the source for seven years, and during that time the presence of organic matter, as shown by the permanganate test, has been very small. Formerly, when the tunnel was short, a few rods only, organic matter was abundant and frequently perceptible to sight, taste, and smell. The sewers, of which there are several mains, empty into the lake below the tunnel. There is no tide, and thus no backing of sewage, nor much trouble with sewer gases; the whole system of drainage is good. The city is situated on hills adjacent to the lake, and is divided into two unequal parts by a river, with a circuitous course and low alluvial banks; thus, even in the days of surface drainage, water soon left the streets. The temperature of the air is never very low nor very high, but is changeable, and so causes many slight catarrhal affections of the upper air-passages. The temperature is more mild than thirty miles south, where the influence of a large body of water is not felt. Humidity is average. Fogs are infrequent. Malarial diseases, formerly prevalent, are not so at present, and occur mainly in the region of the sewer and canal adjoining. Variola has been annihilated by thorough vaccination and isolation. The pen-house is large and the city limits, on a firm of thirty acres; a place of comfort and healthful surroundings. No case of yellow fever was ever known in the city.

The prevailing contagious disease at present is scarlet fever, of which the atmosphere must carry the poison; personal contact does not seem necessary to contagion, as the following collection of cases will illustrate: A family consists of nine persons—two parents, five young sons, oldest being eleven years of age, and servants. The neighborhood and residence are healthy. No case of the disease known to be within several squares. The second son developed the disease the evening of January 29; the third son, morning of January 31; first and fourth sons, evening of January 31; the father, February 1. The servants, the mother and the fifth son, an infant in arms, escaped. The rapidity with which the four boys contracted the disease proves that it could not have passed from one to another, but that all came under the influence of the *malicious north* at once. There have been similar instances in the city, which have defied all efforts to find direct contagion. When the descent on a family has been so sudden, the disease has usually been of the malignant type, and caused the death of one-third, one-half, or all of its victims. Diphtheria goes *pari passu* with scarlatina. Cases of both diseases are frequently found in the same household.

The present general sanitary condition is excellent, and, in spite of the prevailing epidemic, the percentage of mortality is four per cent. below the general average of the land. The present outbreak seems on the increase, though general cleanliness prevails, and no one thing can be selected as the cause of the increase. The number of deaths from scarlatina last week was ten, which is one-sixth of total number of deaths from all causes. There are no means of finding the proportion of deaths to the number of cases, as all efforts to compel officers to report cases of contagious diseases have failed. The disease, as indicated by deaths, prevails in the districts most thickly populated, but is not noticeably confined to any one locality.

FRANKLIN, LA., February 6.—Dr. C. M. Smith sends an account of the organization of the local board of health, of which he is president. A circular issued by the board explains to the public its chief aims, and concludes with the following recommendations:

First. The thorough disinfection of houses that have been occupied by the sick, by means of fumigation with roll sulphur burned for at

least twenty-four hours in every room therein, the doors, windows, cracks, fire-places, and other openings being closed as nearly hermetically as possible.

Second. The thorough drainage of all cess-pools, the cleansing of all privies, foul drains, and ditches, and their disinfection by free use of such disinfectants and chemicals as may be furnished by the board of health free of cost.

Third. The thorough disinfection of all articles of personal and bed clothing and bedding which have been used by the sick, or subjected to infection, by boiling in water, and it is especially and earnestly urged and requested that all such articles as can be dispensed with be burned.

Fourth. The free use of disinfectants upon and around the premises where the yellow fever has prevailed during the last year.

Fifth. The opening and cleaning of ditches and drains, and grading of the public streets, by throwing to the center the earth from the sides and bottom of the ditches and drains within the jurisdiction of all incorporated towns in this parish at a period not later than the 1st of May, nor before the advent of heavy frost, and the careful abstinence from disturbing the earth thus thrown up between the 1st of May and the 1st of December.

HAGERSTOWN, MD., February 3.—Dr. J. M. Scott states that this city has no board of health. Reports of deaths and their causes can be made, but the number and nature of cases cannot be ascertained.

HOLLY SPRINGS, MISS., February 14.—Dr. F. W. Dancy states that, in this town of 3,000 inhabitants, only one death occurred during the month of January, that of a colored man, from pneumonia. There were 35 deaths during the year 1879, giving an annual death-rate of 11.66 per 1,000; the causes of death are not stated.

LANCASTER, PA., February 3.—Dr. William Blackwood writes that this city of 26,000 inhabitants has no board of health, though an ordinance exists authorizing the establishment of one. The water supply is partly from cisterns under ground and partly from Conestoga Creek, which flows near the city. There is an extensive system of brick-lined sewers, and into these are discharged the surface drainage and the contents of privies along the line of sewers. Diphtheria and scarlet fever have been very fatal in the county during the past year, but have not been epidemic in the city. No mortality records are kept, and no burial permits are required.

MARSHALL, TEX.—Dr. John H. Pope, under date of February 1, gives the following history of the supposed introduction of scarlet fever into that city from Indianapolis:

January 23, Mrs. Y. arrived here from Indianapolis, bringing a little daughter who had recovered from scarlet fever about three weeks before. The attending physician had declared that all danger of conveying the contagion was past, and precautions are said to have been taken as to the clothing of the child. On the morning of the 27th, only two days and a half from the time of arrival of this family at Marshall, a little girl in the same house was taken sick and had a well-marked though not severe case of scarlet fever. The condition of the premises was good, and no source of contagion can be traced other than the child from Indianapolis.

MEMPHIS, TENN.—Inspector F. W. Reilly, M. D., on duty at Memphis in connection with the sanitary survey of that place under direction of the National Board of Health, furnishes the following information, under date of February 8, concerning scarlet fever in Memphis and vicinity:

Since the date of last weekly report, and during the period between February 1 and 5, there have been four recorded deaths from scarlet fever in this city. Interviews with physicians on February 5 revealed an aggregate of 13 recent cases in the practice of fourteen out of the twenty-five physicians interrogated. As the city directory contains the addresses of sixty-four practitioners, the total number of cases may be conjectured from these figures. Although the ordinances requiring the report of all contagious or infectious diseases are ample, they are so far disregarded that up to the date of the interviews only 16 cases had been reported to the board of health according to the records on file in its office. Hence the necessity for the above round-about method of ascertaining the extent of the disease.

From such data as are accessible, it would appear that Memphis has been exempt from scarlet-fever mortality since December, 1878.

It is learned, however, that as late as March, 1879, there were a number of cases of that mild form of the disease which led Sydenham to characterize scarlatina as the empty name of a disease "as little to be feared as the measles." Among these cases were children who were attending the Alabama-street public school in the eighth ward. This school was reopened for the present (winter) term, on December 1, 1879, and on the 5th of that month one of the scholars returned home from the afternoon session with "a bad cold, high

fever, and sore throat." On the 7th, a physician was called in, who pronounced the ailment to be scarlet fever, and so reported to the board of health. In attempting to trace up the antecedents of this first-recorded case, it was ascertained that a child living on Carroll avenue, about one-fourth of a mile from the above case, was visited, on the 14th December, by a prominent physician and found in the eruptive stage. This physician asserts that he reported this first case personally to the secretary of the health board on the same day, but no record of such report is to be found in the office of the board. Although cases continued to occur during December the writer has learned incidentally of cases attended on the 23d and 30th, the next recorded case at the health office bears date January 10, 1890. What the actual extent of the disease is can only be inferred; but it is not probable that more than 20 per cent. of the cases are recorded.

Of even greater importance, however, than this failure to report is the neglect of precautions which are well understood, and whose utility in arresting the spread of the disease is unquestioned. Bodies are retained too long unburied; public funerals are permitted; children from infected homes are allowed to attend school; and little, if any, attention is paid to the disinfection of clothing, &c., or to the proper public warning of dangerous houses or localities. Something of this is due, no doubt, to the demands upon the time and energies of the president of the board of health in connection with the general sanitary work now being prosecuted, and something also to the character of the present outbreak. Up to February 1, the disease was of so mild a type as to cause little or no general apprehension or uneasiness. Since the deaths on the 1st, 14th, and 5th, this has given place to a widespread alarm which threatens to interrupt the public schools, and has led many families to remove unprotected children to the country.

That the character of scarlet fever is baffling and capricious, beyond that of most contagious diseases, is too well known to justify confidence in any degree of mildness in its first appearances. A recent localized outbreak near La Grange, Tenn., strikingly illustrates the opposite results which follow its visitations. Inspector S. H. Collins, M. D., reports that scarlatina made its appearance on January 8 on the plantation of Dodge Ewell, about two miles north of La Grange, and some forty-nine miles from Memphis. At date of last report, February 3, there had been nine cases and five deaths on the place, and two cases had appeared in La Grange. Dr. Collins's detailed report on the outbreak was forwarded to the president of the Tennessee State Board of Health on the 2d instant, his investigation having been made on the 1st. No clue to the source of the contagion has been discovered other than the fact that the little girl first attacked had received, on Christmas day, a wooden dress from Baltimore. As there had been 57 deaths from scarlet fever in that city during November and December, the probability that this dress was the carrier of the contagion seems strong enough to warrant further investigation.

On receipt of the above letter, Dr. James A. Stewart, health commissioner of the city of Baltimore, was requested to investigate the circumstances. He reports that in his opinion it is scarcely possible that the disease could have been conveyed by means of the garment in question, as no case of scarlet fever had occurred in the house from which it was sent.

PERTH AMBOY, NEW JERSEY, February 1.—Dr. W. W. Hubbard, health officer, gives the following account of this port, and statement of mortality for the year 1879:

Our city lies at the junction of the Karitan River and Staten Island Sound. That portion of the city lying along the sound is mostly built on high ground, rising somewhat abruptly from high-water mark to the height of from 10 to 60 feet, giving ample descent for surface water to flow into the sound. Two years ago we had but one sewer, and that was built only five blocks in extent in the main street, emptying into the sound. Since then we have built three more sewers in streets parallel with the first, all flowing to and emptying into the sound. Others will be built, and we hope soon to have a good system of drainage. There has been quite a perceptible decrease in malarial fevers here during the past year; of course we give the new sewers credit for that. We have a board of health, consisting of the mayor, who is president of the board, and three aldermen, who meet once a month; the city clerk is clerk of the board, who receives all certificates of death and gives permits for burial. Ours is the principal port of entry in this State; during the past two years we have had quite a number of arrivals from Spain and Africa with iron ore. So far no case of contagious disease has been found on any of these vessels, and generally their sanitary condition is good.

Foreign vessels are boarded at all times of the year by the health officer or his deputy; and from April to November *all* vessels from south of Cape Henlopen are boarded, and anchored on the quarantine grounds, over a mile from the city, if there be sickness aboard. Should

all be found well, the vessel is allowed to come up to the city without detention. Since it has been demonstrated that vessels can come in here and up to our docks drawing twenty feet of water, we expect a large increase in foreign arrivals.

For drinking water we depend entirely on wells and cisterns. Our privy system is bad; no excrement is allowed to flow into the sewers, and many of our privies are merely holes in the ground from five to eight feet deep, that soon fill with surface water and overflow with every heavy rain. Formerly, when these receptacles became full of solid matter, another hole was dug in the yard and the privy was moved over it, the overflowing sink covered with boards or brush and a sprinkling of ashes or dirt thrown on, then left to contaminate wells that too often are not far away. At present most of the sinks or vaults are emptied at night and the contents carried out of town in tight box-wagons by farmers for use as manure.

Perth Amboy has a population of about 5000. There were 75 deaths during the year 1879, 167 births, and 1 still-birth during the same year; of the decedents, 30 died of scarlet fever; 16 of diphtheria; 2 of typhoid fever; 8 of typho-malarial fever; 2 of measles; and 2 of consumption. No small-pox since 1874. No epidemic of any kind in 1879. As no record of cases is kept at present, my reports will not be as complete as I would wish.

WORCESTER, MASS., February 1.—Dr. Rufus Woodward, city physician, gives the following history of the epidemic of small-pox which still prevails in that city:

On the 10th of December, 1879, the board of health were first informed that small-pox was in the city. Upon inquiry, it was found that about twelve days before that date an unvaccinated infant was brought from Canada, near Montreal. Soon after arriving here it was taken sick, and was seen by two physicians, both Canadians, who either failed to recognize the nature of the disease or would not report it. The child died, and was buried, with a public funeral, November 25. December 5, an infant in the same family and two children below stairs in the same house were attacked with small-pox. These cases were at once reported, and were the first that were known to the board of health. The infant first taken recovered; of the children below, one died, the other, a boy of seven years, recovered. On my first visit, December 10, I vaccinated a nursing infant in the family down stairs; this child had a mild attack of varioloid. The disease had nearly two weeks in which to spread, before its existence was known to the authorities. From this focus, in a low part of the city, inhabited by poor Irish and French people, the disease radiated, and up to this date sixteen cases of small-pox and four of varioloid have been reported. Of these 20 cases, 10 have died, 8 recovered, and 2 are still under treatment; the latter are both infants, and will probably die. The large mortality is due to the fact that those attacked were mostly young, six of the deaths being under five years of age, and also to the want of proper treatment in many of the cases. Either the patients had no physician at all, or in most cases were abandoned by the doctor employed. We manage the epidemic by requiring all physicians to report to us at once every case coming under their notice; in case of neglect, a fine is imposed, by order of the municipal court. I visit personally every case as soon as reported, and give all directions as to its management, excepting the medical treatment, which is left to the attending physician. A warning flag, with *small-pox* printed in large letters on each side, is placed in a conspicuous position. I do not remove the cases to the hospital, but quarantine the house, and enforce the isolation of its inmates by the constant presence of a competent officer, detailed for the purpose. The district is also placed under the supervision of a sanitary inspector, who visits every house, enforces vaccination of all not protected, attends to sanitary measures, and reports to me. On the termination of cases the houses are disinfected, and all clothing, &c., that is not worth disinfecting is burned. It is the duty of the inspector to see that medical attendance is furnished in cases where it is not done by the family. The police officer is required to see that quarantined persons receive proper supplies of necessities. No child is admitted to the public school without a certificate of successful vaccination from a physician; and free vaccination is offered by the city to all school children who choose to apply. The disease has thus been kept down to two or three cases at a time and confined to two small districts. The hospital for contagious diseases is three miles from the city, and is perfectly isolated.

VIRGINIA CITY, NEV., January 23. Dr. E. R. Harris, forwarding a monthly report for September, 1879, states that weekly reports cannot yet be made, as the board of health has been only recently organized. The city is situated on the eastern slope of Mount Davidson, at an altitude of about seven thousand feet above the sea; this elevation has no injurious effect on health. The natural drainage and the general sanitary condition of the place are very good.

PIEDMONT, TEX.—Under date of February 3, Dr. R. W. Dwyer reports an epidemic of measles and whooping cough prevailing in the town and surrounding country. Two deaths from measles have been reported, but public and private schools were not closed. Burial permits are not required in the town.

In reviewing the mortality reports from cities of the United States, reference is made only to those places which require burial permits. Of these, about 70 now send weekly reports, which are condensed in the table above, and the causes of death arranged in the order of their importance. The average population represented was 8,133,899, or about one-sixth of the present estimated population of the United States. But the reports coming from all parts of the Union, and including cities of every variety of position, climate, and nature of population, the record may be taken as a fair exponent of the general mortality among the urban population of the United States.

1. *Causes of death.* First among these, in almost every country, stand *consumption and acute lung diseases.* They are here presented combined as well as separately, because of their intimate relations and general coincidence in distribution. Consumption not only predisposes to attacks of acute lung disease, but renders them more fatal, while an acute affection of the lungs tends to hasten the development of phthisis in those so predisposed, or already in its incipient stages. The average weekly mortality from these two causes in January was 793, being nearly 28 per cent. of all deaths, and at the annual rate of 5.09 per 1,000 of the whole population. The highest number was 226 deaths for the first week, and the lowest, 769 for the second. Consumption also shows the lowest number of deaths, 106, in the second week, but from that time increases to a maximum of 143 in the fourth week. The extreme rates were 2.69 and 2.57 per 1,000 population, and 14.41 and 15.75 per cent. of all deaths. The total number of deaths from consumption during the month was 1,728; average per week, 432; annual rate per 1,000, 2.76, and ratio 15.23 per cent. of all deaths. *Acute lung diseases* were highest in the first week, and then declined regularly to the fourth; the extremes were 357 deaths per week, annual rate 2.18, percentage of deaths 13.45, and 346 deaths per week, annual rate 2.21, percentage 12.18. The total number of deaths from lung diseases during the month being 1,417, the mean rate was 2.32 per 1,000, and the ratio to the total mortality 12.76 per cent. *Diphtheria and croup* are combined in the table, because many reports received in the first part of the month were made in the form first issued, on which these diseases were not separated. Though next in order of importance numerically, these diseases present less than two-thirds of the mortality caused by lung diseases, little more than half of that due to consumption, and less

than one-third of the number of deaths from the two classes of pulmonary disease combined. Beginning with a minimum of 295 deaths in the first week, or a rate of 1.31 per 1,000, and 7.12 per cent. of deaths, the third week gives a maximum of 242 deaths, with a rate of 1.51, and percentage of 8.61. The total of deaths from these diseases during the month being 915, the mean number per week was 229, the average annual rate 1.47 per 1,000, and the ratio 8.97 per cent. of the total mortality. *Scarlet fever*, while causing more than twice as many deaths as any one zymotic disease below it, does not present one-half of the mortality due to croup and diphtheria. The first week shows the least number of deaths, 91, with a rate of 0.58 per 1,000, and a percentage of 3.16 of all deaths; in the fourth week the deaths were 104, the rate per 1,000 0.67, and the ratio 3.66 per cent. The five remaining diseases rapidly decrease from a monthly total of 208 for *diphtheria and croup* to 95 for *malarial fevers.* These diseases will be further noticed under the second division of the review, which concerns the places in which the several diseases have been most prevalent.

2. *Distribution of diseases.* Assuming the deaths reported to represent the relative prevalence of the diseases which caused them in different localities, an inspection of the weekly tables of mortality, in which a certain geographical order is observed, suggests at once a division of the country into at least three sections. With respect to some important diseases, the lines are so clearly drawn as to leave no difficulty in selecting the following divisions: 1st. The Northeast section, including New England, New York, Pennsylvania, and New Jersey. 2d. The Southeast section, bounded on the north by New Jersey, Pennsylvania, the Ohio River, and the State of Missouri, and including the Southern Atlantic and the Gulf States. 3d. The Northwest section, comprising all States east of the Rocky Mountains not included in the foregoing divisions. The Pacific States are omitted for the present, the population represented in their reports not being sufficient to warrant any general deductions from observations extending over so short a time. The divisions here indicated may be traced in the tables of mortality by taking the cities from Bangor, Me., to Pittsburgh, Pa., both included, for the first section; from Wilmington, Del., to Louisville, Ky., for the second; and from Cincinnati, Ohio, to Omaha, Neb., for the third.

The following table presents a condensed statement of the actual and relative mortality in the several sections from the diseases named above:

TABLE OF DISTRIBUTION OF DISEASES IN THE UNITED STATES.

Sections.	Mean population.	Total deaths.	Annual rate per 1,000.	Consumption and lung diseases.			Consumption.			Lung diseases, acute.			Diphtheria and croup.		
				Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
Northeast	4,212,400	6,586	18.6	1,974	6.07	29.82	1,063	3.27	16.11	911	2.34	13.50	512	1.37	7.77
Southeast	1,396,803	1,986	17.1	583	5.15	29.10	329	3.47	17.03	245	2.10	13.15	95	0.92	4.78
Northwest	2,522,729	2,339	13.2	563	3.04	23.32	297	1.62	11.27	178	0.99	5.51	268	1.61	11.31
Week ending—															
				Scarlet fever.			Diphtheria and croup.			Enteric fever.			Measles.		
				Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
Northeast	192	0.29	2.92	81	0.25	1.72	78	0.23	1.19	112	0.34	1.70	92	0.25	1.40
Southeast	31	0.41	1.66	65	0.61	3.27	58	0.55	2.92	33	0.07	0.15	28	0.26	1.41
Northwest	152	0.92	6.11	55	0.32	2.32	41	0.25	1.86	21	0.13	1.01	26	0.16	1.29

Inspection of the annual death-rate in this table shows at once a considerable difference in favor of the Northwest section, and a reference to the ratio of deaths from *lung diseases* suggests that in this direction lies the chief advantage of that region. Consumption is also much below the mean for the whole country, though in a less degree than acute lung diseases. This should be the case if the climatic influences and conditions of the Northwest are generally favorable to exemption from pulmonary diseases. The deaths from consumption there occur largely among those who have brought the disease with them into the new and growing country, either as emigrants, or as invalids seeking benefit for already existing phthisis. On the other hand, the deaths from acute lung diseases being caused by disease contracted on the spot, it is in them that the greatest difference should be observed, if the conditions are really opposed to the development of pulmonary complaints.

The Southeast section is observed to stand not far below the Northeast in the death-rate from pulmonary diseases; but here, in addition to the importation of previously existing disease, as just noted, the introduction of a large colored population so modifies the conditions as to raise the consideration of race above that of climate and local influences. Attention has been drawn in the weekly summary of mortality to the excessive death-rate among the colored population from cities, and the notes under the weekly tables of reports from cities of the United States furnish the comparative mortality of the white and colored populations so far as they are reported. It is believed that further inquiry will show that among the causes of this greater

mortality in the colored population is an inherent susceptibility to pulmonary diseases in the African race in this country. With regard to *diphtheria and scarlet fever*, the next in importance among the causes of death, it is seen that the rate is rather higher in the Northwest than in the Northeast, while the Southeast section is comparatively exempt. In the latter section, indeed, the exclusion of the city of Baltimore alone would remove all but eight of the deaths from scarlet fever, and more than half of those from croup and diphtheria, while measles have at present practically no place among the causes of death at the South. In the Northeast, all but a few of the deaths from measles are reported from New York and Brooklyn, while Chicago reports nearly all that are recorded in the Northwest. In the latter section, scarlet fever prevails, as in the Northeast, in most of the large cities, and on the Atlantic coast, extends as far south as Baltimore. For small per cent. is given in the tables, because the few deaths reported are known to be but a small proportion of those which have occurred, as indicated by the correspondence of the Bulletin. After many months of immunity from this disease in the United States, it appeared late in the autumn successively in Philadelphia, Washington, Baltimore, and Chicago, the origin of the disease not having been traced in any of these cities. In Worcester, Mass., an epidemic originated in the number from direct importation from Canada, and in San Antonio, Texas, the people have not entirely escaped infection from their Mexican neighbors. It is to be hoped that, with regard to this disease, more active measures of prevention may eventually supplant those of suppression.

The following reports, for the week ending February 7, are from places requiring burial permits, and having less than 5,000 population:

Brunswick, Ga., 3,000; 1 death. Edgartown, Mass., 1,700; pneumonia 1. Franklin, Tenn., 1,800; no deaths. Murrefreesboro, Tenn., 4,000; deaths: 2; consumption 1. Nantucket, Mass., 3,000; deaths: 2 from old age. Shelbyville, Tenn., 2,000; no deaths. Total population, 15,500; total deaths, 6; rate per 1,000, 20.2.

The following reports, for the week ending February 7, are from places in which burial permits are not required:

Allegheny, Pa., 75,000; deaths, 25; under 5 years, 11; consumption 4, croup 1, diphtheria 2, lung diseases 5, whooping cough 1. Alexandria, Va., 13,000; deaths, 3; croup 1, pneumonia 1. Ann Arbor, Mich., 7,520; deaths, 2; consumption 1, pneumonia 1. Bath, Me., 10,000; deaths, 3; consumption 1. Battle Creek, Mich., 7,500; deaths, 2; croup 1. Benton County, Miss., 11,000; consumption 1. Boulder, Colo., 4,200; deaths, 5; under 5 years, 1; consumption 2, pneumonia 1. Brattleboro, Vt., 6,500; deaths, 3; pneumonia 1. Brownsville, Tex., 6,500; deaths, 5; under 5 years, 3; diarrhea 1. Brownsville, Tenn., 4,500; deaths, 3; consumption 1, enteric fever 1, pneumonia 1. Cambridge, N. Y., 1,850; 1 death. Carrollton, Miss., 600; no deaths. Chatham, Conn., 2,850; no deaths. Chicago, Cal., 5,000; consumption 1. Chillicothe, Ohio, 12,000; consumption 1. Circleville, Ohio, 6,000; 1 death, old age. Clinton, Mich., 1,000; no deaths. Columbus, Ga., 10,000; deaths, 12; consumption 1, pneumonia 1. Crystal Springs, Miss., 1,000; no deaths. Cumberland, Md., 12,000; deaths 1, under 5 years, Dallas, Tex., 20,000; deaths, 2; pneumonia 1. Decatur, Miss., 1,000; no deaths. Fairfield, Conn., 4,000; puerperal fever 1. Fayette, Miss., 300; no deaths. Fort Scott, Kans.; no deaths; population not given. Greenville, Ala., 4,500; no deaths. Gunn City, Mo., 125; no deaths. Huntington, Tenn., 5,000; 1 death under 5 years, pneumonia. Indianapolis, Ind., 10,000; deaths, 4; enteric fever 1, malarial fevers 2, old age 1. Jefferson, Tex., 3,000; deaths, 4, under 5 years; croup 1. Jeffersonville, Ind., pneumonia 1; population not given. Kenosha, Wis., 5,000; deaths, 2; under 5 years, 1; diphtheria 1. Lansingburgh, N. Y., 7,150; deaths, 2; pneumonia 1. Lebanon, Pa., 9,000; deaths, 3; under 5 years, 1; puerperal 1. Legansport, Ind., 15,000; deaths, 3; under 5 years, 1; scarlet fever 1, lung diseases 2. Los Angeles, Cal., 11,000; deaths 2, under 5 years. Louisiana, Mo., 5,200; 1 death. Madison, Ind., 12,000; deaths, 3; puerperal 1. Martinsburg, W. Va., 6,000; deaths, 3; under 5 years, 1; consumption 1, measles 1. Meridian, Miss., 5,000; deaths, 2; pneumonia 1. Millidgeville, Ga., 1,000; no deaths. Mount Pleasant, Iowa, 5,000; 1 death, croup, under 5 years. Mus-

catine, Iowa, 7,587; enteric fever 1. Muskegon, Mich., 13,025; deaths, 3, under 5 years, diphtheria. New Castle, Pa.; deaths, 2; consumption 1, diphtheria 1; population not given. Newport, Ky., 25,000; deaths, 12; under 5 years, 1; consumption 6, croup 1, lung diseases 2, puerperal 1. Orange, N. J., 12,000; no deaths. Painesville, Ohio, 5,000; no deaths. Phenixville, Pa., 6,000; no deaths. Pontotoc, Miss., 600; no deaths. Port Jervis, N. Y., 10,000; deaths, 3; under 5 years, 2; diphtheria 1. Pulaski, Tenn., 3,000; 1 death, old age. Raymond, Miss., 700; no deaths. Ripley, Miss., 1,000; no deaths. Rockland, Me., 7,000; deaths, 1; under 5 years, 1. Seaside, Mo., 12,000; deaths, 2; consumption 1. Springfield, Ohio, 20,000; deaths, 7; under 5 years, 2; consumption 2, croup 1, diphtheria 1. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths, 7; under 5 years, 5. Tampa, Fla., 1,200; old age 1. Tinsville, Pa., 9,000; consumption 1. Tuscaloosa, Ala., 1,000; no deaths. Waco, Tex., 11,000; 1 death, old age. Waterbury, Conn., 16,000; deaths, 8; under 5 years, 1; consumption 1, croup 2, pneumonia 1. Waxahachie, Tex., 2,000; deaths, 2; diarrhea 1, puerperal 1. Wesson, Miss., 2,000; lung disease, 1. Winona, Minn., 11,786; deaths, 3; under 5 years, 2; croup 2. Youngstown, Ohio, 17,000; deaths, 4; under 5 years, 2; malarial fever 1, pneumonia 1. Total population, 551,650; deaths, 146; under 5 years, 50.

WEEKLY SUMMARY OF MORTALITY.

The reports from cities requiring burial permits for the week ending February 7, represent a population of 554,721, showing an increase of 185,063 over the preceding week. The number of deaths has not increased in the same proportion, being 2,929, or 121 more than last week, and the general annual rate of mortality has declined from 18.1 to 18.1 per 1,000. In the ratio of deaths under 5 years, no appreciable change is observed; the number of deaths being 1,115, the rate is 37.5 per cent. of the total mortality, which is the same proportion that existed last week. *Scarlet fever* remains nearly stationary, while a slight increase in *diphtheria* and *croup*. *Measles* are still most fatal in New York, Brooklyn, and Chicago, those cities reporting 31 out of 34 deaths. Of the 109 deaths from scarlet fever, 60 were in States on the Atlantic coast, from Massachusetts to Maryland, and 11 in Ohio, Indiana, and Illinois; only 5 deaths were reported south of the Ohio and Potomac rivers. The general rate of deaths from the diseases reported, and their distribution during this week, do not vary materially from the record in the monthly review for January given in this number.

MONTHLY REPORTS OF MORTALITY IN CITIES OF THE UNITED STATES.

Cities and States.	Month.	Population.	Deaths under 5 years.	Total number of deaths.	Annual rate per 1,000.	Consumption.	Croup.	Diarrhoeal diseases.	Diphtheria.	Enteric.	Malaria.	Scarlet.	Yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small pox.	Whooping cough.	All zymotic diseases.	Accidents.
1879-80.																				
Boulder, Colo.	December	4,200	2	7	20.0	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo, N. Y.	October	150,000	63	160	12.8	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	November	150,000	76	188	15.0	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chatham, Conn.	January	2,850	1	1	4.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill.	do	337,824	479	771	17.7	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
District of Columbia ..	December	170,000	112	314	22.2	64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elmira, N. Y.	January	20,436	6	27	15.8	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eric, Pa.	do	30,000	11	31	12.2	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flint, Mich.	December	10,000	6	6	12.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hudson County, N. J. ...	do	100,000	132	297	16.8	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Keokuk, Iowa.	January	15,000	16	31	24.8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lansing, Mich.	do	10,000	25	10	12.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Legansport, Ind.	do	15,000	18	18	14.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Memphis, Tenn.	do	30,650	21	62	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nashville, Tenn.	December	27,065	14	54	23.9	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	January	27,065	15	55	24.0	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Haven, Conn.	do	60,000	26	69	14.8	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Norfolk, Va.	do	21,600	18	28	14.0	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patterson, N. J.	do	10,000	28	95	28.5	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Petersburg, Va.	do	.....	11	34	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pomoret, Ohio.	do	8,000	5	5	7.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Providence, R. I.	December	92,500	80	243	25.2	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	January	102,000	82	198	23.3	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Richmond, Ind.	December	11,000	2	13	14.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	January	11,000	5	16	17.7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Santa Barbara, Cal.	November	1,500	1	3	8.0	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	December	1,500	2	8	21.3	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	January	1,500	1	7	18.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salina, Mo.	November	7,271	1	12	20.4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	January	7,670	1	12	20.4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Syracuse, N. Y.	do	55,000	25	82	20.7	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Toledo, Ohio.	December	60,000	34	77	15.4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yonkand, N. J.	January	8,000	5	5	7.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Virginia City, Nev.	September	16,000	15	23	24.7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Watertown, Wis.	January	10,000	4	11	14.2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total		1,939,379	1,115	2,965	18.1	378	113	87	171	49	19	254	350	22	36	3	22	84	87	

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, FEBRUARY 28, 1880.

[No. 35.]

CONVENTION ON VITAL STATISTICS.

The National Board of Health requests that all who are interested in vital statistics, and especially those who are charged with the duties of state or municipal registration, will meet with it in Washington, on the 6th of May next, for the purpose of considering the best methods for the collection and publication of such statistics. This convention will consider more especially mortality statistics, for which it is extremely desirable to secure more uniformity than exists at present in nomenclature, in nosological arrangement, and in the forms of tables or graphic representations intended to show the relations of causes of death to locality, meteorology, sex, age, nativity, occupation, and birth-rate.

All registrars of vital statistics are respectfully invited to forward to the Board, as soon as possible, their suggestions as to nomenclature, blanks, forms, &c., including the following points:

1. Is it best to accept for the present the nomenclature of diseases drawn up by the Royal College of Physicians of London; and if not, what substitute is suggested?

2. Furnish a copy of the State or municipal law or ordinance relating to registration of births and deaths; state the objections to it and the changes which should be made in it.

3. Furnish copies of the blank forms for reporting cases of death or of birth actually in use, with criticisms.

4. Furnish specimen pages of the record or registration books for births and deaths, with criticisms and suggestions.

5. Furnish copies of such forms as are recommended for a weekly report of deaths from a city; for a monthly report of deaths and births from a city; the same from a State, and for annual reports from a city and from a State.

6. Furnish also copies of such forms of statistical reports as are recommended for use by asylums, dispensaries, hospitals, prisons, and other public institutions.

7. Furnish such forms for registration of births and of marriages as are recommended.

8. Please state whether registration of cases of certain contagious or infectious diseases should be attempted; and if so, indicate the diseases and give forms.

All persons interested in the subject of vital statistics are invited to forward suggestions in regard to the above or any other questions pertaining to the subject, and to indicate as precisely as possible the methods by which their suggestions are to be carried out.

It is desired that communications on this subject shall be presented without delay, in order that they may be embodied in schedules which will be prepared for the use of the convention.

ABSTRACTS FROM CONSULAR REPORTS.

BAFARIA, JAVA.—A letter from the acting United States consul, dated January 1, reports this city free from contagious or epidemic diseases. The outbreak of small-pox in a neighboring village had been suppressed, and the disease had not extended to the city.

BELIZE, BRITISH HONDURAS.—Under date of February 3, United States Consul E. D. Barden writes as follows:

There has been no contagious or epidemic disease of any kind of late at this place, and excepting some malarial fevers we have less sickness than almost any other tropical country in the same latitude. The island of Cosumel, less than 100 miles north of Belize, and about 150 miles from Cuba, is considered one of the healthiest spots in the world. I have to report that vessels from New Orleans decline to take bills of health from this consulate, though I consider such certificates of importance, as said vessels frequently touch at different ports on the coast of Central America.

SANTOS, BRAZIL.—United States Consul W. T. Wright forwards the official report of mortality for the year 1879, from which it appears that there were 460 deaths from all causes, in a population of 11,000, being at the annual rate of 40.8 per 1,000. Among the causes of death stated are the following: Consumption, 36 deaths; rate 3.27 per 1,000 of population per annum. Diarrheal diseases, 27; rate 2.45. Lung diseases, 26; rate 2.36. Yellow fever, 61; rate 5.55 per 1,000. There were 8 deaths from malarial fevers, and 6 from typhoid fever. Eleven different nationalities are represented, but the Brazilian, Portuguese, and African comprise 415 out of the 460 deaths; only 2 were American, 13 were English, and 23 were divided among 5 European nations.

ZANZIBAR, AFRICA.—Under date of September 23, 1879, United States Consul W. H. Hathorne gives the following account of this city:

No records of births, deaths, or diseases are kept in this city, and even the number of inhabitants is not known, though usually estimated at 100,000. There are no other towns of any importance on the island, the other settlements being only fishing villages. Since the cholera, which raged here in 1839-70, and swept off about one-tenth of the population, there has been no disease of a dangerous character. Dysentery and malarial fevers are the prevailing diseases, but do not often prove fatal. Elephantiasis is quite common among the negroes, Arabs, and Hindoos, but is not known ever to have attacked a white person. The city of Zanzibar is built on a point of the island of the same name, which is composed of coral and sand; there is no system of drainage, all liquids filtering out through the sand, at low water. The thermometer ranges from 65° to 75° during the cool season, from the end of April to the end of September, and varies from 75° to 90° in the hot season. The light rains occur in November and part of December; the heavy rains begin in March and continue till the early part of June, when the pleasant weather sets in with a southern monsoon. The climate is healthy, but like that of all tropical places, is very enervating to Europeans and Americans. Two American firms are trading here, their vessels coming and going via the Cape of Good Hope, and taking about three months to make the voyage each way.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING FEBRUARY 14, 1880.
CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death rate per 1,000 of	Consumption.	Croup.	Diphtheria.	Enteric.	FEVER.	Measles.	Whooping-cough.	All zymotic diseases.	Accidents.	
									Malarial.	Scarlet.	Yellow.	Lung diseases.		
Me	Bangor	20,000	1	10	26.1	1						1		
N. H.	Concord	14,468	1	10	27.3									
Mass.	Boston	375,000	49	154	24.4	28	3	12	12	3		23	1	
	Cambridge	50,000	6	18	18.7							2	4	
	New Bedford	27,000	5	11	23.2								1	
	Newburyport	13,300	1	7	26.0									
	Methuen	17,500	2	6	41.7							1		
	Plymouth	6,334		2	16.4	1								
	Lawrence	40,000	5	14	18.2			1	1			1		
	Wareham	3,000	3	21	21.0									
	Lowell	32,000	9	27	27.0	7				1		4	1	
	Lynn	37,000	9	17	33.9	1		3				1	5	
	Brookton	12,000	3	4	17.3	1		1						
	Holyoke	29,000	4	10	26.1			2				1	1	
	Milford	10,000	1	5	26.1			1	1					
	Somerville	23,000	2	5	11.3					1			1	
	Springfield	31,000	1	9	13.1			1						
	Fitchburg	12,500	4	3	8.4									
R. J.	Providence	102,000	17	46	23.5	7		1	1	1		2	12	
Conn.	New Haven	60,000	10	23	20.0	2		1		2		2	6	
	Burlington	16,500	1	2	6.3									
N. Y.	New York	1,090,000	29	62	23.2	39	7	3	10	11		10	14	
	Brooklyn	264,438	102	250	23.2	39	7	3	10	2	8	47	5	
	Yonkers	19,000	2	10	27.4	2	1					2	2	
	Poughkeepsie	20,000	4	17	22.1			1	3			2		
	Newburgh	15,000	3	8	19.9									
	Sing Sing	5,000		8	83.5	2		1	2			1	1	
	Utica	35,000		8	11.9			2	1			1	1	
	Buffalo	170,000	22	52	15.9	7	5			1		11	10	
	Binghamton	40,000	1	10	25.0									
N. J.	Hudson County	199,000	28	67	17.5	10	2		1	1	6	11	1	
	Newark	125,000	19	48	19.4	7		2	1	2		7	5	
	Plainfield	8,000		1	6.5				1	6		3	2	
Pa.	Philadelphia	901,380	100	32	7	4	8	9	1	6		30	6	
	Erie	30,000	3	6	10.4	1		1				1	2	
	Reading	40,250	5	18	23.2	2	1		1	1		3	5	
	Pittsburgh	145,000	30	67	24.1	4		7	8			11	3	
Del.	Wilmington	45,000	6	15	20.0									
Md.	Baltimore	400,000	58	150	19.5	23	7	1	3	1	11	18	4	
District of Columbia		170,000	31	90	27.6	17	2	4	1	1		17	3	
Va.	Norfolk	24,000	8	13	28.2	1	1	4	1			1	8	
	Richmond	80,000	11	24	18.6	9	1					3	1	
N. C.	Wilmington	17,000	7	8	24.5					1				
S. C.	Charleston	57,000	11	39	33.7	4	1					9	1	
Georgia	Savannah	32,626	4	18	28.7	4			1	1		2	1	
	Augusta	28,874	1	6	10.6			1	1			3		
	Atlanta	41,548	7	17	23.9	3						2		
	Rome	5,000	1	5	52.1	1	1					3		
Fla.	Jacksonville	10,000	1	6	31.3	3						1	2	
	Mobile	40,000	3	19	23.8	1						3		
Miss.	Vicksburg	15,000	3	10	33.8	1						2		
La.	New Orleans	210,000	38	102	25.3	19	3	1	2	4		16	2	
	Shreveport	9,500	4	8	43.9									
Tex.	Austin	15,000	2	11	17.3			1				2		
	San Antonio	22,500	2	11	25.5							1		
Tenn.	Memphis	30,650	5	20	34.0	3				2		2	1	
	Nashville	27,083	3	15	28.9	3						1		
	Chattanooga	12,000	3	13	28.4	1						1		
	Clarksville	6,000	2	7	40.0	2						1		
Ky.	Louisville	175,000	21	58	17.3	12	1	1				3	8	
Ohio	Cincinnati	280,000	23	62	11.5	12	3					8	4	
	Cleveland	175,000	30	69	20.5	1	2	1				1	1	
	Dayton	39,000	5	11	14.7							1	3	
	Columbus	5,500	1	1	9.5									
Ind.	Evansville	37,500	6	15	26.8	1			1	2		3		
	Indianapolis	98,000	17	26	13.8	3	2					1	1	
	Richmond	14,000		3	11.2	1								
Ill.	Chicago	557,624	87	166	16.6	16	14	3	21	1	2	25	5	
	Peoria	40,000	1	8	16.4	1						1	2	
	Quincy	30,000	3	8	13.9	2	1					1		
Wis.	Milwaukee	124,000	24	50	21.6	8		1	5	2		6	1	
Minn.	Saint Paul	51,080	1	9	9.2							1	3	
	Minneapolis	32,000	8	14	14.6			3				1	4	
Iowa	Des Moines	30,000	2	5	17.3							1		
	Keokuk	15,000	2	5	17.3							1		
Mo.	Saint Louis	500,000	39	124	12.9	21	3	5	2	3	1	19	3	
	Kansas City	61,000	5	17	14.5	2	1					2	1	
Kans.	Lawrence	30,000	2	7	28.2							1		
Nebr.	Omaha	30,000	2	1	6.9							1		
Utah	Salt Lake City	25,000	6	12	25.0							2	3	
Cal.	San Francisco	300,000	24	27	16.8	16						12	2	
	Sacramento	25,000	1	10	20.8							1		
	Vallejo	5,000		1	10.4							1		
	Los Angeles	14,000	1	17	26.1	1						1		
Totals.		8,349,947	1,178	4,206	19.1	429	94	43	118	61	35	86	467	32

* Boston has 370,000 white, 5,000 colored, deaths 151 white, 4 colored. Rate per 1,000 white 21.3, colored 31.3. Lawrence has 39,800 white, 200 colored; deaths 14 white, 30 colored. Rate in table. Providence has 28,200 white, 3,500 colored, deaths 11 white, 5 colored. Rate per 1,000 white 18.7, colored 48.2. Reading has 40,000 white, 350 colored; deaths 18 white, 18 colored. Rate in table. Wilmington, Del. has 10,000 white, 4,000 colored; deaths 9 white, 6 colored. Rate per 1,000 white 11.7, colored 78.2. Baltimore has 343,745 white, 56,285 colored, deaths 119 white, 31 colored. Rate per 1,000 white 18.9, colored 28.7. District of Columbia has 111,000 white, 56,000 colored; deaths 24 white, 36 colored. Rate per 1,000 white 21.6, colored 29.5. Norfolk, Va. has 15,000 white, 9,000 colored; deaths 6 white, 7 colored. Rate per 1,000 white 20.2, colored 28.4. Richmond has 40,000 white, 31,000 colored, deaths 11 white, 13 colored. Rate per 1,000 white 22.4, colored 25.4. Charleston has 25,000 white, 32,000 colored; deaths 9 white, 10 colored. Rate per 1,000 white 16.7, colored 43.5. New Orleans has 155,000 white, 55,000 colored; deaths 72 white, 30 colored. Rate per 1,000 white 21.2, colored 28.4. Jacksonville has 10,000 white, 4,000 colored, deaths 6 white, 10 colored. Rate per 1,000 white 23.8, colored 24.4. Augusta has 15,246 white, 11,628 colored; deaths 2 white, 4 colored. Rate per 1,000 white 16.35, colored 29.7. Memphis has 16,705 white, 13,954 colored; deaths 12 white, 8 colored. Rate per 1,000 white 15.5, colored 28.8. Chattanooga has 8,000 white, 4,000 colored; deaths 1 white, 6 colored. Rate per 1,000 white 6.5, colored 30.0. Louisville has 151,125 white, 21,875 colored; deaths 13 white, 15 colored. Rate per 1,000 white 27.1, colored 35.0. Kansas has 6,000 white, 1,750 colored; deaths 1 white, 1 colored. Rate per 1,000 white 7.6, colored 30.7. Total white population, 1,995,796; colored, 292; rate per 1,000, 19.3. Total colored population, 384,516; deaths, 264; rate per 1,000, 53.8.

† Chicago, Mass., population 11,000, reports no deaths.

The following reports, for the week ending February 14, are from places requiring burial permits, and having less than 5,000 population:

Brunswick, Ga., 3,000; no deaths. Edgartown, Mass., 1,700; no deaths. Franklin, Tenn., 1,621; consumption 1. Murfreesboro, Tenn., 4,000; pneumonia 1. Nantucket, Mass., 3,000; consumption 2. Shelbyville, Tenn., 2,000; 1 death. Total population, 15,321; total deaths, 5; rate per 1,000 per annum, 17.0.

The following reports, for the week ending February 14, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 6; under 5 years, 1; consumption 2, pneumonia 1. Allegheny, Pa., 75,000; deaths, 20; under 5 years, 12; consumption 2, diphtheria 1, enteric fever 1, lung diseases, 5. Ann Arbor, Mich., 7,520; deaths, 2; under 5 years, 1; consumption 1, diphtheria 1. Bath, Me., 10,000; deaths, 6; under 5 years, 2; consumption 3, lung diseases 2. Battle Creek, Mich., 7,500; deaths, 3. Belfast, Me., 5,278; deaths, 2; consumption 1. Boulder, Colo., 4,200; no deaths. Brattleboro, Vt., 6,500; deaths, 2; under 5 years, 1; consumption 1, pneumonia 1. Brownsville, Tex., 5,500; deaths, 4; under 5 years, 2; diarrhoea 1. Burlington, N. J., 10,000; deaths, 3; consumption 2. Calais, Me., 7,000; deaths, 3; under 5 years, scarlet fever 1, pneumonia 1. Cambridge, N. Y., 1,850; pneumonia 1. Carrollton, Miss., 600; no deaths. Chatam, Conn., 2,850; deaths, 2; under 5 years; diarrhoea 1, whooping-cough 1. Helena, Mont., 3,500; deaths, 3; under 5 years, 1; consumption 1, diphtheria 1. Chillicothe, Ohio, 12,000; deaths, 2; under 5 years, 1; consumption 1, croup 1. Clinton, Mich., 1,000; no deaths. Columbus, Ga., 10,000; deaths, 5; under 5 years, 2; croup 1, diarrhoea 1. Corinth, Miss., 2,300; no deaths. Crystal Springs, Miss., 1,000; consumption 1. Cumberland, Md., 1,200; deaths, 2; under 5 years, 1; consumption 1. Dallas, Tex., 20,000; deaths, 6; under 5 years, 2; consumption 1, lung diseases 4, whooping-cough 1. Danbury, Conn., 9,250; deaths, 2; consumption 1. Davenport, Iowa, 25,000; deaths, 6; under 5 years, 1; diarrhoea 1, lung diseases 3. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. East Haven, Conn., 1,200; 1 death. Fairfield, Conn., 4,000; no deaths. Fernandina, Fla., 3,000; 1 death. Greenville, Ala., 4,500; no deaths. Huntington, Tenn., 5,000; no deaths. Indiana, Tex., 900; no deaths. Iuka, Miss., 1,000; no deaths. Jacksonville, Ill., 15,500; malarial fever 1. Jefferson, Tex., 3,000; 1 death under 5 years. Jeffersonville, Ind., no deaths; population not given. Kenosha, Wis., 5,000; deaths, 3; under 5 years, 1; consumption 1, diphtheria 1, lung disease 1. Lansingburgh, N. Y., 7,150; deaths, 3; under 5 years, 1; malarial fever 1, scarlet fever 1, lung disease 1. Lebanon, Pa., 9,000; 1 death. Logansport, Ind., 15,000; deaths, 1; consumption 1, scarlet fever 1, peripneumonia 1. Louisiana, Mo., 5,200; lung disease 1. Madison, Ind., 12,000; deaths, 3; under 5 years, 2; lung disease 1, peripneumonia 1. Manitowish, Wis., 8,000; deaths, 2; under 5 years, 1; diphtheria 1. Marquette, Mich., 3,000; peripneumonia 1. Massillon, O., 8,000; deaths, 1; under 5 years, 2; consumption 1, croup 1, pneumonia 1, whooping-cough 1. Meridian, Miss., 5,000; deaths, 4. Millersville, Ga., 4,000; no deaths. Mt. Pleasant, Iowa, 5,000; deaths, 3; consumption 2. Muscatine, Iowa, 7,587; deaths, 4; consumption 2, lung disease 1. Muskegon, Mich., 13,000; deaths, 4; under 5 years, 1; consumption 1, diphtheria 1, malarial fever 1. Nebraska City, Neb., 5,000; consumption 1. Newcastle, Pa., 10,000; deaths, 2; consumption 1, scarlet fever 1. Newport, Ky., 25,000; deaths, 10; under 5 years, 4; consumption 3, croup 1, malarial fever 1, scarlet fever 2, peripneumonia 2. Okolona, Miss., 3,000; pneumonia 1. Orange, N. J., 12,000; 1 death. Oshkosh, Wis., 18,000; deaths, 3; consumption 1, diphtheria 1. Palmyra, Ohio, 5,000; 1 death. Phenixville, Pa., 6,000; consumption 1. Pontotoc, Miss., 600; no deaths. Port Jervis, N. Y., 10,000; deaths, 3; scarlet fever 1, lung disease 1. Pulaski, Tenn., 2,100; enteric fever 1, under 5 years. Raymond, Miss., 700; pneumonia 1. Ripley, Miss., 1,000; no deaths. Rockland, Me., 7,000; deaths, 2; pneumonia 1, peripneumonia 1. Seneca Falls, N. Y., 6,300; malarial fever 1, under 5 years. Springfield, Ohio, 2,000; deaths, 2; under 5 years, 2; consumption 2, enteric fever 1, whooping-cough 2. Starkville, Miss., 4,163; consumption 1. Steubenville, Ohio, 13,500; deaths, 1, under 5 years. Tampa, Fla., 1,200; 1 death. Titusville, Pa., 9,000; no deaths. Tuscaloosa, Ala., 1,000; 1 death. Verona, Miss., 1,000; deaths, 2; consumption 1, lung disease 1. Victoria, Tex., 25,000; one death, under 5 years. Waterbury, Conn., 1,000; deaths, 8; under 5 years, 3; consumption 1, diarrhoea 1. Wawayahchie, Tex., 2,000; 1 death. Wesson, Miss., 2,000; no deaths. Winchester, Va., 5,500; deaths, 4; lung diseases 3, whooping-cough 1. Winona, Minn., 10,000; 1 death, lung disease, under 5 years. Youngstown, Ohio, 1,700; deaths, 5; under 5 years, 2; consumption 1, diphtheria 1, lung disease 1. Total population, 611,629; deaths, 174; under 5 years, 60.

NATIONAL BOARD OF HEALTH rooms are at 1110 G street, northwest.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending February 14 from places requiring burial permits represent 83 cities and an aggregate population of 5,349,947, being a decrease of 204,774 since the preceding week. In addition to these, reports are noted from 84 places in which burial permits are not required, and representing a total population of 611,629, with 174 deaths recorded. This class of reports has now assumed sufficient proportions to afford a basis for an approximate estimate of the results of non-requirement of burial permits. Taking any groups of places at random from the list in the table, giving a total of about 600,000 population, it will be found that the annual death-rates per 1,000 for the several groups will vary but little, rarely as much as two units, from the mean for the whole number of cities. Comparing this mean rate, which is 19.9 for the present week, with the mean rate for places in which burial permits are not required, it is found that the latter is only 14.1. This difference is so great as to leave no other probable explanation than imperfect registration of deaths, and goes far to demonstrate the propriety of omitting the latter class of reports in all estimates based upon supposed accuracy in the record of deaths. The number of deaths for the present week is 3,205, being 227 more than last week. This increase, in connection with the corresponding decrease of population, has raised the mean annual death-rate from 18.1 to 19.9 per 1,000. The deaths under 5 years show 36.75 per cent. of all deaths this week, as compared with 37.17 last week; but with this relative reduction the ratio to the population has increased from 6.81 to 7.35 per 1,000 per annum, and this ratio is the only true measure of variations in actual mortality. This is illustrated by the mortality from *consumption* and *acute lung diseases*, which comprises this week 29.89 per cent. of all deaths, being exactly the same relative mortality that existed last week. But the ratio of deaths from these causes to the population has risen from 5.43 to 5.18 per 1,000, and explains, to a considerable extent, the increase in the general death-rate. The zymotic diseases may be divided as follows, as compared with last week: *Increased*, enteric fever, from 0.24 to 0.28; measles, from 0.21 to 0.32; malarial fevers, from 0.15 to 0.21. *Decreased*, diphtheria, from 0.95 to 0.92; scarlet fever, from 0.67 to 0.54; and whooping-cough, from 0.23 to 0.22 per 1,000 of population. Scarlet fever is not only the cause of fewer deaths this week, but the reports of correspondents indicate a generally prevailing mildness of type where the disease is epidemic. The total mortality from the six diseases enumerated has risen from 2.50 to 2.61 per 1,000 of population.

MISCELLANEOUS.

HAVANA, CUBA.—Advices from this city, under date of February 7, report that there were fifteen deaths from yellow fever during the month of January.

MASSACHUSETTS GENERAL HOSPITAL.—Under date of February 11, Dr. J. H. Whittenton calls attention to the fact that cases of zymotic diseases are received into this hospital from the country around, and often from a distance of many miles; such cases are not to be reckoned in estimating the prevalence of contagious diseases in the city of Boston.

MOBILE, ALA.—Dr. T. S. Scales forwards reports of the quarantine station at Fort Morgan for the months of August, September, and October. During the three months 41 vessels of all kinds were boarded and no contagious diseases were reported. There were 31 American vessels, mostly schooners, 5 English, 1 German, and 1 Mexican. Only 5 vessels were subjected to cleansing or fumigation, or both; 2 American schooners in September, 1 from St. Thomas, W. I., and 1 from Rumania, Honduras; also, in October, 2 American schooners from Aspinwall and Havana, and one English bark from Cape Town, Africa.

SAN FRANCISCO, CAL.—Dr. E. H. Bryan, physician to the City and County Hospital, makes the following report of that institution for the year ending June 30, 1879. There were 351 patients remaining from the preceding year, and 3,174 were admitted, giving a total of 3,525 under treatment during the year 1878-79. Of these, 2,600 were discharged as cured, 744 discharged by request, 343 died, 13 were sent to insane asylum, and 13 to the almshouse; 262 remained in hospital July 1, 1879. There were 64 births, 28 of male and 26 of female children. Of the 3,174 admitted, 3,117 were whites, and of these 325 died, or 10.5 per cent.; 57 colored persons were admitted and 16 died, being 28.1 per cent. The mean death rate was 2.5 of all admitted. Among the causes of death, in order of importance, were: consumption, 111; acute lung diseases, 28; enteric fever, 14; accidents and injuries, 14; cancers, 12; and diarrhoeal diseases, 6.

WASHINGTON, D. C.—J. C. McGinn, chief clerk of the District health office, reports no new cases of small pox during the week ending February 7. Between that date and the 9th four cases and two deaths have been reported.

REPORTS FROM HOSPITALS IN THE UNITED STATES FOR THE WEEK ENDING FEBRUARY 14, 1980.

[illegible]

Name of hosp. tal.	Place.	Character of hospital.	Number of beds.	Patients at last report.										Totals.											
				Con- sump- tion.	Croup.	Diph- theria, throat diseases.	Fever, enteric.	Fever, malignant.	Fever, scarlat.	Long diseases, nephre.	Measles.	Inter- perid dis- eases.	Small pox.	Admitted.	Discharged.	Died.	Remaining.								
Anderson River State Hospital	Poughkeepsie, N. Y.	Insane	200	148																					
Marshall Infirmary	Utica, N. Y.	do	200	156																					
Willard Asylum	Willard, N. Y.	do	200	156																					
Washington Hospital	Washington, Pa.	do	200	156																					
Philadelphia Hospital for Insane	Philadelphia, Pa.	do	200	350																					
Maryland Hospital for Insane	Catonville, Md.	do	200	317																					
Insane Asylum	Richmond, N. C.	do	279																						
Alabama Insane Hospital	Montgomery, Ala.	do	394																						
Insane Asylum	Ashton, Texas	do	394																						
Insane Asylum	Carrollton, Ohio	do	415	414																					
Longview Asylum	Indianapolis, Ind.	do	654	653																					
Columbus Asylum for Insane	Columbus, Ohio	do	900	839																					
Insane Asylum	St. Louis, Mo.	do	1100	825																					
Minnesota Hospital for Insane	South St. Paul, Minn.	do	1000	825																					
Landale Asylum	Fulton, Mo.	do	471																						
Insane Asylum	St. Louis, Mo.	do	329	329																					
Insane Asylum of California	Stockton, Cal.	do	1122	1125																					

REGULATION OF COMMON CARRIAGES AND LOCAL QUARANTINES.

The following bill "for the regulation of inter-State freights and passengers, and to relieve the same from the restrictions of local quarantines," was introduced in the House of Representatives January 7 (H. R. 3115), by Hon. JOSEPH H. ACKLEN, January 10, 1880:

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That whenever any city, town, or place, in any State or Territory, shall have been declared infected with yellow fever or other contagious or infectious disease, by either the President of the United States or the governor of any State or Territory, on information furnished by the National Board of Health, authority being hereby conferred to make such declaration, or should any State or Territorial board of health or other competent authority, in the lawful exercise of the police power of the State, make and publish declarations of quarantine, then the executive committee of the National Board of Health, and the governor or his appointee, if he chooses to serve, of the State or Territory where said infected city, town, or place may be located, shall be constituted under this act an executive committee to establish in said State or Territory at such points as they deem best along the line of railroads, water-courses, or other lines of travel leading from said infected city, town, or place, quarantine stations, and appoint quarantine officers for the inspection of freights and passengers and those vehicles of transportation whose starting-point or whose destination is beyond the limit of said State or Territory: *Provided*, That should the governor or his appointee, of the State or Territory decline to serve, then the other persons constituted under this section as the executive committee shall proceed at once to carry out its provisions.

SEC. 2. The quarantine officers appointed under the provision of section 1 of this act shall make their inspection and issue their certificates, under such rules and regulations as may be promulgated by the National Board of Health. They shall have the sole and exclusive inspection and certification in the State of all freights and passengers whose starting-point or whose destination is beyond the borders of said State or Territory.

SEC. 3. That when said quarantine officers, under the rules and regulations prescribed by the National Board of Health, shall have duly inspected said freight and passengers, and certified that they are free from infection, it shall be unlawful for any person or persons, whether claiming authority under a State, municipality, board of health, or otherwise, to stop, detain, or in any manner interfere with the passage over said railroads or water courses, or other lines of travel of said freight or passengers, or their vehicles of transportation, on the charge or ground that they may be infected or dangerous to the public health.

SEC. 4. The provisions of this act shall not, however, be construed as applying to freight or passengers whose starting point and whose destination lie wholly within the limits of the same State or Territory.

SEC. 5. Any person or persons who, contrary to the provisions of this act, willfully arrests or detains, or aids or abets in so doing, any freights or passengers, or their vehicles of transportation, on the ground that they may be infected or dangerous to the public health, after the same shall have been certified by the quarantine officers appointed under the provisions of this act as free from infection, shall be deemed guilty of a misdemeanor, and on conviction thereof shall pay a penalty of \$1,000, one-half to be paid to the informer, and shall be punished by imprisonment not less than six nor more than twelve months.

SEC. 6. The expenses incurred under the provisions of this act shall be paid out of such funds as have been or may be appropriated for the use of the National Board of Health.

WHELFING, W. A. The report of Dr. T. O. Edwards, health officer, for the two weeks ending February 14, gives a total of 32 deaths in a population estimated at 23,500 by the health office, and at 35,000 by the city authorities. The former estimate gives an annual death rate of 25.3, and this high average seems chiefly due to measles, which caused 8 out of the 32 deaths; consumption and acute lung diseases also gave 8 deaths, of which 6 were due to the latter cause. The mortality among children under 5 years was very large, comprising 25 out of the 32 deaths, or 71.9 per cent.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
1880.																		
Vancover's Island.	Victoria.	5,000	Feb. 2	2	26.8													38
Canada	St. John's.	15,000	Feb. 14	1	10.4													18
	Kingston.	16,000	Feb. 14	1	3.2													22.7
Bermuda	Hamilton.	14,867	Feb. 10	2	7.0													69.5
Do	do	14,867	Feb. 17	3	10.5							3	1			2		67
Colombia	Bavaria.	165,437	Feb. 14	1	5.6													76
St. Domingo	San Domingo.	8,000	Jan. 4	4	26.1													80
Do	do	8,000	Jan. 11	9	58.7													79
Do	do	8,000	Jan. 18	6	37.1													78
Do	do	8,000	Jan. 25	9	58.7													79
Do	do	8,000	Feb. 1	8	52.2													77
West Indies	Turkey and Caicos Is's.	3,500	Jan. 10	3	44.7													76
Do	do	3,500	Jan. 17	2	28.8													77
Do	do	3,500	Jan. 24	4	59.6													77
Do	do	3,500	Jan. 31	2	28.8													78
Do	do	3,500	Feb. 7	1	14.9													77
Mexico	Acapulco.	3,500	Jan. 24	11	163.9													82
Peru	Lima.	3,500	Jan. 31	8	136.3					55	6							76
Do	do	5,000	Jan. 15	22	238.6					31	16							76
Ireland	Dublin.	182,082	Jan. 31	94	26.9							3	1			62		46
Do	do	182,082	Jan. 31	290	49.5						2						40	41.3
Do	Queenstown.	10,000	Feb. 7	4	20.9													46
Do	do	10,000	Feb. 15	5	31.1							10	1	2				47
Scotland	Leith.	58,000	Jan. 31	25	22.5													39.7
Do	Glasgow.	135,000	Jan. 31	83	27.6							1	1	1	1	132		47
Do	do	135,000	Feb. 7	79	26.3													39.4
Do	Glasgow.	578,156	Jan. 31	275	24.8													32
Do	do	578,156	Feb. 7	277	24.2													41.6
England	London.	3,620,868	Jan. 31	2	31.6							11						34
Do	do	3,620,868	Feb. 7	3,376	48.6							13	17					43.1
Do	Liverpool.	538,338	Jan. 31	331	32.1							3	3	23	3	56		36
Do	do	538,338	Feb. 7	290	28.1							4	1	10	1	44		33.4
Do	Sheffield.	297,138	Jan. 31	125	22.1													43.7
Do	do	297,138	Feb. 7	129	22.7													12
Do	Newcastle-on-Tyne.	146,948	Jan. 31	78	27.3													24
Do	do	146,948	Feb. 7	60	21.7													33.9
Do	do	210,000	Jan. 31	129	32.9							1						3
France	Paris.	92,068	Jan. 31	58	29.9							2						37
Do	Lyon.	342,815	Jan. 31	270	41.1													45
Do	Rome.	104,862	Jan. 17	73	36.3					14								31.2
Switzerland	Zurich.	1,988,890	Feb. 5	129	42.3							72	101					33.1
Holland	Rotterdam.	222,008	Jan. 31	15	35.4													7
Do	Amsterdam.	147,000	Jan. 31	92	32.6											20		1
Do	do	308,952	Jan. 31	210	35.4							7	1	1		204		26
Germany	Mannheim.	308,952	Feb. 7	253	36.3							4		2		140		30
Do	Stuttgart.	48,000	Jan. 31	13	14.1													9
Do	do	105,825	Jan. 17	50	24.7													6
Do	do	105,825	Jan. 24	51	25.1									1				9
Do	do	105,825	Jan. 31	45	22.2													6
Do	Barmen.	93,000	Jan. 24	54	30.3													25.2
Do	do	93,000	Jan. 31	38	21.3													28.0
Do	Frankfurt-on-Main.	126,000	Jan. 24	69	37.6													38.8
Do	Bremen.	105,000	Jan. 24	42	20.9													4
Do	do	105,000	Jan. 31	36	17.9													26.38
Do	Breslau.	270,000	Jan. 24	163	31.5													22
Do	Berlin.	1,062,500	Jan. 24	552	37.2													20
Austria	Vienna.	309,482	Jan. 31	204	36.6							7	6			196		19.7
Saxony	Dresden.	218,000	Jan. 24	97	16.9													74
Do	do	160,000	Jan. 24	71	37.8													2
Do	do	160,000	Jan. 31	80	42.6									1				6
Bavaria	Munich.	90,000	Jan. 24	54	31.3													42.3
Denmark	Copenhagen.	225,000	Jan. 20	128	29.7													9
Do	do	225,000	Jan. 27	100	23.2							11	2			11		34.0
Italy	Leghorn.	97,880	Jan. 31	72	37.4													23.5
Austria	Vienna.	737,285	Jan. 17	409	29.9													26.0
Hungary	Buda-Pesth.	327,788	Jan. 17	232	39.3													44.2
Do	do	327,788	Jan. 24	234	39.6													27.9
Russian Poland	Warsaw.	309,703	Jan. 17	153	25.7													2
Do	do	309,703	Jan. 24	172	29.8													5
Sweden	Stockholm.	169,429	Jan. 17	68	21.0													23.2
Do	do	169,429	Jan. 24	58	17.9													3
Norway	Christiania.	113,000	Jan. 24	28	12.9							1				13		11.1
Morocco	Casablanca.	6,500	Jan. 24															2
Do	do	6,500	Jan. 31															11.1
Cape Colony	Cape Town.	35,000	Jan. 13	31	46.2													80
Do	do	35,000	Jan. 19	17	25.3													80

NOTE.—The death rate in London for the week ending February 7, is higher than in any week since 1866, when cholera prevailed. The continuance of cold weather with heavy fogs, adding to the deaths from lung-diseases, and a general increase in zymotic diseases of children, chiefly account for the high rate of mortality.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The total numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

CHARLESTON, S. C., February 15.—Dr. F. Porcher gives the following account of the prevailing diseases of this city:

Measles for a month past have been extensively prevalent in this city and throughout the surrounding country. The first case of *membranous croup* which has been seen here for twelve to fifteen years occurred during the past week, with a fatal result. I called the attention of the medical society to our singular exemption from this disease five years since. Previous to 1860 it was not a very rare disease. I have carefully investigated the reports regarding the existence of cases of small-pox near the Northeastern Railroad, between this city and Florence, S. C. There are no foundations for the rumors.

Whooping-cough prevails at present in this city, and occasional cases of diphtheria occur. This disease, which has existed here for about five years, has never, in my knowledge, been carried to the Parish of Saint John's, which lies between the Santee and Cooper Rivers.

I have been very much surprised to learn that a limited number of cases of *hemorrhagic malarial fever* occurred in that section, on the Santee, 50 miles from Charleston, the disease never having been seen in this city, or, as far as I can ascertain, in any portion of this State.

This winter has been one of the mildest and driest in the experience of the oldest inhabitants.

MINNEAPOLIS, MINN., February 20.—Dr. G. F. French writes as follows concerning some of the sanitary conditions of this city:

Only one or two streets in Minneapolis are sewered, and these but partially. The cesspool system prevails, the said pools being bottomless pits, which diffuse their contents in every direction through the porous soil. When full, they are covered and another hole dug near by, as was formerly the custom in such ill-fated cities as Memphis and Buenos Ayres. This state of things does not preclude the digging of wells, though it may help to explain the prevalence here of considerable malignant diphtheria and typhoid fever.

NORFOLK, VA.—Prof. N. B. Webster writes as follows with reference to the question of the supposed protective influence of cattle against the action of the yellow fever poison upon man:

Having read with much interest Dr. Smart's notes in the BULLETIN of the National Board of Health, page 256, on the immunity of cattle from yellow fever, I am reminded of having read many years ago that no butchers had yellow fever during one or more years of its prevalence in Philadelphia. I have not access at present to the writings of Dr. Rush on yellow fever in Philadelphia, but I am confident that the circumstance was stated by that wonderful man and close observer. Should such prove to be the case, it may be a matter of importance to put "this and that" together, for possibly the animals called "bovine" may prove as serviceable in mitigating or preventing the fearful source of yellow fever as they have in the once more prevalent and dreaded small-pox. It will certainly be worth while to collect facts relative to the alleged preventive influence of cattle.

Does alkalinity of the atmosphere, from ammonia or some allied volatile alkali, cause or favor the spread of yellow fever, as intimated in the report of the Havana Commission? (See supplement to BULLETIN National Board of Health, page 19.) And does ammonia from excretions of cattle suggest a "possible disinfectant or germicide in the case of yellow fever?" By all means let observed facts be collected. The above is written to suggest the importance of observations and results of observation of those who have had full opportunities to reply authoritatively to your published query. "Is it a fact that cattle-shops never become infected?" And also, have butchers and others whose occupations require much of their time amidst the "ambrosial breath" of kine, or the exhalations of their excretions, in the decomposing offal of slaughter-houses, any special immunity from yellow fever? Facts only can answer.

PHILADELPHIA, PA., February 17.—Dr. R. A. Cleemann, health officer, sends the following report for the last quarter of 1879:

The last quarter of the year 1879 was marked in Philadelphia by unusual meteorological conditions. The mean temperature, as reported at the United States signal station, was 48° 4 F., nearly five degrees higher than the average for the same quarter during the

previous seven years, while the rainfall decreased from an average of 10.07 inches to only 6.48 inches. The season was therefore warm and wanting in rain. The mean relative humidity was, however, somewhat higher than common, being recorded at 70.4 (saturation being 100), while the average in recent years has been 68.1. The thermometer range was, especially in the first two months (October and November), greater than usual. The highest point reached by the mercury during the quarter was 75°, recorded on the 3d October, and the lowest 11°, noted on the 27th December. The heat of October, when tested by records going back many years, was proved to be unparalleled for the month in this climate. There were eight days when the maximum of the thermometer rose above 80° F., and eleven days when it passed beyond 70° F. Fortunately, the mercury in these hot days always had a wide range, varying from ten to nearly thirty degrees, in this respect contrasting very favorably with its accustomed behavior during the days in the previous quarter, when the thermometer marked more equal degrees of temperature.

Saved to a certain extent by these breaks in the continuity of the heat, and owing to the small number of cold days, the death-rate which, in Philadelphia, is gauged more by the weather than by any other disturbing causes, was comparatively low during the quarter. The whole number of deaths recorded from September 28, 1879, to January 3, 1880, a period of fourteen weeks, was 3,574—the deaths from premature birth (47) and the stillborn (212) are not included—divided among the three months as follows: October (5 weeks), 1,159; November (4 weeks), 1,016; December (5 weeks), 1,399. With the population of Philadelphia estimated at the middle of the year to be 301,380 inhabitants, the above number of deaths corresponds to an annual death-rate of 14.73 deaths to every thousand people living.

This is unquestionably a very low rate for so large a city as Philadelphia, and may reasonably give rise to doubts whether all the deaths which occurred were registered, or whether the population is not overestimated. I am quite certain, however, that the registration is complete, and am convinced that the method of estimating the yearly increase in the number of inhabitants is a very fair one. The estimate is calculated on the basis of the known average increase in the population of the city during the eight decennial periods preceding 1870, which equals 37.4 per cent. of the number of inhabitants, and from which may be deduced a yearly increase of 3.74 per cent. I tested the result obtained by this method by another, in which was used the ratio of the number of inhabitants living to each death from phthisis during the decennial 1860-1870, assuming that this ratio would be true for any single year. Multiplying the number of deaths from phthisis in 1879 by the ratio in question, the result was a population about ten per cent. less than the one accepted above; but as the last year was undoubtedly a favorable one to those suffering from phthisis, the deaths from that disease were unquestionably below the average, so that the result obtained by the first method may be considered not very far beyond the mark.

It is the rule, however, as the records of the health office show, for the last quarter of the year to furnish the least number of deaths as compared with the other quarters. The proportion which the death-rate of this period of the year bore to the annual death-rate for the sixteen years previous to 1877 was as 19.63 is to 22.53. (Report of Board of Health of city and port of Philadelphia for 1876, p. 35.) The lessened mortality is of course due to the more favorable meteorological conditions generally in the last quarter of the year.

The deaths were unequally divided among the sexes; those of males counted 1,890 and those of females 1,724, being, as is usual, less than the number for males.

With respect to age, there died under one year, 583; between one and two years, 204; between two and five years, 242; between five and ten years, 143; between ten and fifteen years, 68; between fifteen and twenty years, 90; between twenty and thirty years, 606; between thirty and forty years, 390; between forty and fifty years, 354; between fifty and sixty years, 319; between sixty and seventy years, 224; between seventy and eighty years, 27; and over eighty years, 176. The larger proportion of deaths occurred in the earlier years of life, but the preponderance was not so great as it had been in the preceding quarter.

The mortality, adopting for convenience the classification of Dr. Farr, in an abridged form, was divided among the several causes of death as follows:

I. *Zymotic diseases*, 567: Small-pox, 9; measles, 5; scarletina, 18; diphtheria, 95; croup, 123; whooping-cough, 19; typhoid fever, 104; enteric fever, 7; dysentery, 14; diarrhoea, 19; cholera infantum, 33; malarial fevers, 11; cerebro-spinal meningitis, 7; yellow fever, 1.

II. *Constitutional diseases*, 220: Cancer, 92; Tabes mesenterica, 124; phthisis pulmonalis, 640.

III. *Local diseases*, 1,517: *Diseases of nervous system*, 505; *diseases of organs of circulation*, 241; *diseases of respiratory organs*, 405, including from pneumonia, 252, and from bronchitis, 77; *diseases of digestive organs*, 253; *diseases of urinary organs*, 77; *diseases of generative organs*, 12; *diseases of organs of locomotion*, 12.

IV. *Developmental diseases*, 457: Child-birth, 4; peripartur convulsions, 5; old age, 181; debility and marasmus, 208.

V. *Violent deaths*, 129: *accidents and asphyxia*, 63; *homicide*, 4; *suicide*, 12.

Unclassified, 3. Total, 3,574.

The 567 deaths from zymotic diseases bear to the total mortality a proportion of 15.3 per cent., which compares very favorably with the like statistics of other large cities. It is true that the deaths from *cramp* have increased immensely since the previous quarter, and those from *diphtheria* also very much, but this is in Philadelphia the usual result of a lowered temperature, and if the mortality from these diseases in the corresponding quarter of the previous year be compared with the present rates, it will be found that the death rates of both zymotics have fallen off, that of *diphtheria* very much.

The deaths from *typhoid fever* do not exceed in their general aggregate their average number for the last quarter of the year, but the proportions in which they are distributed among the several months, October, 31, November, 31, December, 42, are unusual and, in my opinion, full of warning. In Philadelphia it is the rule for the deaths to decline in number very much in November and then rise again in December, but this year, though only four weeks were allotted to November and five to October, both months have the same mortality from the disease. There was, therefore, no November fall, but the customary rise took place in December and went even beyond the usual height. The cause of this anomaly is to be found, I think, in the unusually warm weather of October, which was favorable to the existence and perhaps propagation of the *typhoid fever* poison. The circumstance leads me to fear for 1890, unless a prolonged cold season should occur, a marked exacerbation in the *typhoid* death rate, especially at the close of the summer. As the changes in temperature are beyond our control, the practical outcome of this warning will be found in a more than customary attention to the purity of the water-supply, to general cleanliness, and the removal of excreta, that the element of filth may be eliminated as far as may be from the conditions of causation.

The 78 deaths from *scarlet fever* are a much less mortality from this disease than prevailed in any other quarter of the year, and mark, in fact, the end of the exacerbation of this zymotic which began in this city toward the close of 1877, and cost in the following year 400 lives, and 330 in 1879. A minimum has been reached in the perennial course of the disease, which, to my mind, considering the history of the past, betokens a diminished mortality for 1890 with a probable beginning of a new exacerbation in the last months of that year. It would seem cruel and heartless to many mothers, but it would without doubt save hundreds, perhaps thousands, of lives, had the board of health the authority, now when the low ebb of the disease makes the plan more feasible, to combat the looked-for renewal of the epidemic by taking all the little ones affected with *scarlatina* from their homes and isolating them in appropriate hospitals. As yet such radical measures are looked upon as uncalculated for invasions of the freeman's castle.

In my last letter I mentioned with satisfaction that two years had elapsed since a death from small-pox had been reported to the health office, but it has been seen above that nine deaths from this malady had been registered up to the end of the year. The first case of the disease was reported on the 23d of November; it was of a boy seven years of age, and terminated fatally on the 26th; in the same house a young man was the subject of a slight attack of varioloid. Inquiry brought to light the fact that these children in the same house had immediately before suffered from mild forms of the disease, and still earlier another member of the family, a boy, had had in the first days of November a pustular eruption, but was so little sick that he continued to attend the public school. This boy said that he had played in the street with another lad having a similar eruption, but who the latter was, or whence he came, he did not know. The further steps of the contagion were sought without success.

The locality in which small-pox appeared is in the extreme outskirts of the built-up portion of the city, miles away from the principal railway stations and the shipping, but, singularly enough, is part of a neighborhood where, when small-pox is epidemic, it is wont to find its most numerous victims.

The board of health at once took measures to combat the enemy. The vaccine physician of the district was directed to make a thorough canvass of his charge and vaccinate all the children in the public schools; inspectors were detailed to make domiciliary visits, examining every part of each household, that any nuisance existing might be discovered, while gangs of workmen were organized to abate, without delay, such nuisances if not removed by the householders. At the same time an additional force of scavengers was put upon the streets to make them thoroughly clean. Directions were given in case of death that the burial take place at once, without funeral, and advice be immediately sent to the health office that bedding, clothing, &c., might be disinfected. Every new case discovered was isolated in the municipal hospital where this was within the power of the board, and when a physician was found not reporting promptly a case of the disease coming under his care he was fined to the full extent of the law. The board made no concealment of the state of affairs, but passed a resolution advising every one throughout the city to resort to vaccination or revaccination.

What the future of this small beginning of small-pox will be I do not venture to positively assert, but the prompt adoption of the measures above sketched (the lapse till now (February 12, 1890) of three months since the first known cases occurred, without serious aggravation of the pest, and the mild character of the season, which assures better ventilation of houses, are strong grounds of hope that no extended epidemic will ravage the city.

The record shows one death from yellow-fever. This occurred in October at the municipal hospital, the victim being a sailor on a vessel from Cuba who had previously been admitted as suffering from an ordinary form of malarial fever into a general hospital in the very center of the most thickly inhabited portion of the city. Happily the arrival of the case was at a time of the year (the last day of the quarantine season) when yellow-fever is not dreaded in this latitude, and it led to no untoward consequences; but the manner in which the sailor passed the quarantine is worth relating, as illustrating one of the difficulties of enforcing a strict quarantine. At the inspection which took place when the vessel came to at the lazaretto station, the master, in reply to questions, said that there had been no sickness on his vessel during the voyage, though his steward had died from injuries received in a fall. The vessel in consequence was not looked upon as requiring special detention, and in due time was allowed to proceed. Afterwards, however, when the serious nature of the man's illness was discovered, the log of the vessel was examined, and from this it appeared that the steward had not died from the effects of an injury, but from some unknown fever, of sufficiently serious character to lead to the consignment of his clothes and effects with his body to the sea. The board fined the owner of this ship heavily, and it is not likely that a similar falsehood will be repeated on his vessel; but there are doubtless many other reckless skippers who will not hesitate to imitate this faithlessness, if by said conduct they can run their ships more quickly through quarantine. I made an experiment at disinfecting this vessel with steam (reported in Philadelphia Medical Times for November 8, 1879). The heated vapor was poured from the boiler of a steam tug into the hold for an hour's time, but the temperature of the interior of the ship's side did not reach even 100° F.; the verdict was therefore against the practicability of this method of purification.

In the last month of the quarter some cases of fever were brought to the Alms-house Hospital which were pronounced by the careful physicians of that institution to be true typhus; in no instance, however, was there a fatal result, and no new cases originated in the hospital. There was one death reported as having occurred from typhus on December 4 in one of the poorer sections of the city.

The deaths from pneumonia and bronchitis advanced from 112 and 43, respectively, in the previous quarter, to 252 and 77 in the period now under consideration. The increase is more than one hundred per cent. with regard to pneumonia, and almost as great with reference to bronchitis. The figures are, however, almost exactly the same as for the last quarter of 1878, being, in their augmentation, a natural result of the colder weather. They present a very favorable comparison with those representing the mortality from these diseases in some other large Eastern cities less fortunately situated than Philadelphia, being several fold less.

ROCKLAND, ME., February 2.—Dr. F. E. Hitchcock reports that this town had in 1879 a population of 7,630. There is a local board of health, but burial permits are not required.

SENECA FALLS, N. Y.—Dr. D. T. Purdy, health officer, gives the following account of this village, February 7:

Seneca Falls is a village of 6,300 inhabitants, having a board of health composed of four members, a president, and a health officer, six in all, organized under the State laws of New York. Burial permits are required, and the health officer is empowered to make from time to time such rules and regulations for the suppression and removal of nuisances as he may think best for the promotion of the public health, not conflicting with any statute law of the State, the same to be published in the official paper of the village. This power is delegated to the health officer by the board of health and the board of trustees, that he may at any time deal with nuisances as they arise, without calling a meeting of the board. All suits for damages and fines are commenced in the village police court, and in the name of the village.

The prevailing diseases of this section are malarial, and nearly all diseases partake more or less of the malarial type.

VINELAND, N. J.—Dr. Charles Brewer, forwarding his report for the month of January, remarks that the mildness of the season has induced many invalids in advanced stages of consumption, who usually went South for the winter, to remain at their homes. This fact may add several deaths to the list from pulmonary disease in Vineland this winter. No scarlet fever since last report. The two cases then recorded occurred in adjoining houses, the second after such an interval as to indicate contagion from the first. In the second house no case had occurred for fifteen years. The origin of the first case is still obscure.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, MARCH 6, 1880.

[No. 36.]

ANNUAL REPORTS OF MORTALITY IN THE UNITED STATES.

Reports for the year 1879 have been received from thirteen cities. To these have been added eleven cities of New Jersey, which have made weekly or monthly reports, and their annual statistics are taken from the report of the State board of health for the year 1879. Fourteen separate forms of annual reports are therefore represented in the following tables, and of these no two are alike. The differences are such as to render direct comparison in some cases impossible, and difficult in all. Not only is there no uniform plan as to nomenclature, classification, or arrangement, but a most ingenious diversity exists as to the selection or omission of the several items of information usually expected in such reports. As most of them do not enter upon *vital* statistics, they

must be compared only as reports of *mortality*, and even with this restriction it is found that of the various fundamental facts required in these reports, the total number of deaths for the year is the *single one* that can be carried without interruption through the series. The population, which is the essential basis of all estimates, is given in all the reports, but in some of them it is taken from a census too old to be of any present value in this country, where the movement of population has not only its general onward course, but its eddies and currents due to local or temporary causes, which produce sudden and irregular changes. Where an official estimate of population for 1879 could be obtained, this has been substituted for the older regular census employed in some of the reports. The following tables and the subjoined notes exhibit the principal facts presented in the reports:

TABLE OF MORTALITY FOR THE YEAR 1879.

States and cities.	Population.	Total deaths.	Annual death rate per 1,000.	Deaths under 5 years.	Annual rate per 1,000.	Per cent. of total deaths.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Vt. Burlington	16,500	209	12.66	101	6.12	48.33	25	15	13	22	17	14	26	26	12	17	21	20
N. Y. New York	1,097,363	28,342	25.82	12,718	11.64	43.09	2,596	2,276	2,384	2,255	2,091	2,250	3,109	2,415	2,162	2,118	2,489	2,167
Syracuse	35,000	720	20.60	325	9.30	31.25	54	62	62	52	46	50	32	87	51	17	32	61
N. J. Bridgeton	8,000	128	16.25	57	7.12	41.30												
Burlington	10,000	134	13.40	58	5.80	37.66												
Elizabeth	28,000	472	16.86	197	7.04	41.31												
Hoboken	28,000	609	21.89	345	12.32	51.57												
Jersey City	125,000	2,517	20.14	1,168	9.34	46.40												
Newark	125,000	3,116	24.93	1,326	10.61	42.55												
Orange	12,000	215	17.92	97	8.08	45.12												
Paterson	40,000	564	14.10	359	8.97	36.12												
Perth Amboy	5,000	77	15.40	33	6.60	42.46												
Plainfield	8,000	130	16.25	53	6.62	40.77												
Trenton	30,000	653	21.77	194	6.47	29.71												
Del. Wilmington	44,000	871	19.43	358	7.68	38.81	74	85	95	85	63	60	81	75	54	60	79	60
Md. Baltimore	393,796	7,618	19.34	3,285	8.39	44.43	621	583	716	548	541	685	819	763	557	551	691	569
Va. Richmond	80,000	1,605	20.10	716	8.95	44.53												
Ala. Selma	7,070	265	28.99	85	12.02	41.46												
Tex. San Antonio	23,000	515	22.39	251	10.91	48.74												
Ohio Cincinnati	280,000	5,290	18.89															
Toledo	50,000	773	15.46	377	7.54	48.78	78	61	61	66	56	51	85	87	59	43	16	75
Ind. Evansville	40,000	729	18.22															
Wis. Milwaukee	124,000	1,965	15.85	1,060	8.55	53.91	163	117	186	165	130	136	196	228	189	154	131	107
Mo. Saint Louis	300,000	6,167	12.33	2,666	5.33	43.23	550	430	431	397	451	611	593	704	424	192	140	544

The above table of reports from 21 cities presents the deaths for the months in only 8 places, and the deaths under 5 years in all but two cities. The ratio of the latter to the whole population is given in the number of deaths per 1,000 per annum, while the proportion of deaths under 5 years to the total mortality is expressed in hundredths. The highest rate by population is 12.32, in Hoboken; the lowest is 1.09, in Syracuse, N. Y. Apart from epidemic zymotic diseases, the rate of mortality under 5 years is chiefly affected by aggregation or density of population. Of these two most important factors, the former alone can be obtained from the reports. The highest rate of total mortality is 28.99, in Selma, Ala.; but on separating the colored element, which is 56.1 per cent. of the whole population, the death rate is found to be 19.1 for the colored people

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REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

APPLETON, WIS.—Under date of February 26, Dr. J. T. Reeve, secretary of the State board of health, reports that no epidemic disease, excepting a mild form of influenza, or catarrhal fever, has prevailed in that city for some months. Diphtheria has been quite fatal in the northwestern part of the State, and especially in New London, about twenty miles west of Appleton. A committee of the State board investigated the conditions of the place, and their report, as published in the *New London Times*, is inclosed. The committee trace the spread of the disease, in many cases, to direct contagion from personal contact, or use of infected clothing, and ascribe the continuance of the disease in the town to absence of measures of isolation and disinfection, and to accumulation of filth, furnishing a suitable soil for the propagation of the poison.

MAKITOWO, WIS.—Dr. J. Pritchard reports a total of 77 deaths in this town, of 8,000 inhabitants, during the year 1879, giving an annual death-rate of 9.62 per 1,000. The diseases are not specified.

DALLAS, TEX., February 24.—Dr. J. L. Carter, health officer, states that a case of scarlet fever recently occurring in that city was traced to importation from Indianapolis. Whooping-cough prevails in a mild form. A copy of a "health notice" to the public, with ordinance appended, shows that the local board of health and city authorities are active in enforcing sanitary measures, as to drainage and abatement of nuisances.

NEW ORLEANS, LA.—Dr. C. B. White, under date of February 10, forwards the following extracts from official reports, in corroboration of certain verbal statements made by him, to a member of the National Board of Health, as to the insufficient space allowed in some school-houses of New Orleans:

October 4, 1879.—The board of health report, in a school-house in the first district of New Orleans, one room 204 feet long, 164 feet in width, and 17 feet high, occupied by 70 children, allowing 5 superficial feet, and 1 cubic foot of space, to each scholar. Another room, of the same length, width, and height, contained 97 children, giving a floor-space of 3 feet, and 60 cubic feet of air-space, to each one.

At another school, 100 children were crowded into a room 25 feet long, 11 feet wide, and 9 feet high, giving to each child 2 feet 9 inches of floor-space, and 24 feet 9 inches of air space. These facts were stated in a full report made in 1875 of all the school-rooms in the city; some of the worst then reported have been changed, but those above noted remain as they were when last reported, in 1877. The minimum of air-space allowed in the New York schools is from 70 to 100 cubic feet of space per scholar, according to age. This is confessed to be too small, and no comment is required on the conditions existing in the rooms above described.

SAN ANTONIO, TEX.—Under date of February 5, Dr. W. L. Coleman gives the following account of this city and its diseases:

San Antonio is a city of about 22,000 inhabitants, situated in a valley near the head of the San Antonio River, a small stream which has its origin in a number of springs issuing from a range of hills just north of the city. The population is composed of all nationalities—about one-third Germans, one-third Americans, and the rest Mexicans, negroes, &c. As it is probably the oldest city in the South, having been first settled about the time Philadelphia was founded, it presents many unique structures of every conceivable style of architecture, from the humble thatched *jacal* of the Mexican to the substantial stone residence of the merchant prince. The majority of buildings, however, are of the old Mexican style, one story, low adobe walls, with the floors on the ground and no ventilation. They are already, and as they grow older will become still more, a source of typhoid fever. The natural drainage of the city and suburbs is good, and is aided by shallow surface ditches. Water is distributed to the people in three ways, from the city water-works, from wells, and from ditches. That of the water-works is brought from near the head of the river; it is clear, and of a mild limestone taste. The well-water is harder still, and though clear and cool, yet as the wells are only from 20 to 30 feet deep they are rapidly becoming contaminated by the privies, which are frequently located within six feet of them. The ditches are the receptacles of all manner of filth and refuse matter, and as the water from them is used by the lower classes for all purposes, it is undoubtedly the cause of malarial and typhoid fevers among them. The older physicians say that malarial fevers were unknown here until within the last three or four years, and the ditches are the only source to which I can attribute their origin. They were originally dug by the old monks for irrigating purposes, and while thus used they were clean and free from accumu-

lations, but as the town increases they become filthier every year. The water is shut off once a year, during the month of February, for the purpose of cleaning them out, and this process consists of a gang of men dragging the year's accumulation of mud, filth, and rubbish upon the banks and leaving it to fester in the sun and to be washed back by the first rain. The result is a notable increase of malarial troubles immediately after. There is less attention paid by the authorities to the sanitary condition of the city than in any other place of its size in the Union; the drainage is yearly becoming worse, and stagnant pools are of frequent occurrence after rains. The yellow-fever poison would revel in a place like this, and I predict that the next time that disease invades our State it will prevail here, because the citizens rest in fancied security, thinking the place too high above the level of the sea for yellow fever to exist.

There were 524 deaths last year from all causes, the largest number that ever occurred in one year except when cholera prevailed here. This increased mortality was caused by the prevalence of small-pox, which existed throughout the year, the last death from that disease occurring January 10. The mortality report of the city physician shows only 125 deaths from small-pox; which is certainly incorrect, as I have reliable information that there were 750 cases in all, and the death rate was fully 25 per cent. Many deaths from that disease were reported under the head of congestion, inflammation of the brain, &c., showing an evident design on the part of the authorities to conceal from the public the progress of the disease. The city is at last free from this loathsome disease; a state of things which might have been accomplished months ago by a very little effort on the part of the authorities. The great wonder is that it did not spread more rapidly and to a greater extent, as I have on several occasions met negroes on the street covered with maturing pustules, and in very few instances was the bedding used by small-pox patients destroyed. There were 75 deaths from diseases of the respiratory system, which at first glance would seem strange, as this is a noted resort for consumptives; but most of the deaths were among strangers who came here too late to be benefited by the climate. We have but little pneumonia. Typhoid fever prevails here during the fall and winter of a purer type than I have seen anywhere else in the South; and it is certain to increase, if the neglect of sanitary rules continues in the future as in the past.

ABSTRACTS FROM CONSULAR REPORTS.

BUENOS AYRES, ARGENTINE REPUBLIC.—United States Consul E. L. Baker reports for the month of December, 1 death from yellow fever, 73 from small-pox, 23 from typhoid fever, and 4 from scarlet fever, out of 780 deaths from all causes. The population being 250,000, the annual rate per 1,000 was 37.4. Since the one death from yellow fever, that disease has disappeared from the city, and clean bills of health were given.

BRIDGETOWN, BARBADOES.—United States Consul W. H. Polleys forwards a report for the month of December, 1879. There were 138 deaths, in a population of 24,100, being at the annual rate of 77.1 per 1,000, yet no special disease is mentioned, and the sanitary condition is considered satisfactory.

IQTQUE, PERU.—United States Consul J. W. Merriam, forwarding his report for the week ending January 15, writes as follows concerning the sanitary condition of the city:

The number of cases of small-pox reported this week has been 26, against 31 for the week before. The disease had existed in a sporadic form for several months previous to December, 1879, when it became epidemic, soon after the Chilean troops took possession of the town. Some cases occurred on vessels in the harbor which have since sailed for Valparaiso, and there are at present no cases among the shipping. The disease now prevails chiefly among the troops, who are quartered in various parts of the city, and have spread the contagion to some extent among the native and foreign population. The small-pox hospital is very favorably located upon an eminence, isolated from the town, and enjoying abundance of fresh air. The general sanitary condition of the town is good, as the authorities have strictly enforced the laws relating to cleaning of streets and premises; these measures have no doubt held in check the epidemic, which seems now to be declining. Owing to the movements of the population, and the coming and going of troops, no correct estimate can be made of the present number of inhabitants, which is probably about five thousand. The temperature is moderate for midsummer, being about 77° in the shade, and, excepting small-pox, no unusual sickness prevails.

MAZATLAN, MEXICO.—United States Consul E. C. Kelton reports 77 deaths in December, 1879; the population being 122,000, the annual death-rate was 77 per 1,000, though the sanitary condition is rated as "good." Mean temperature 69°. The malarial disease prevailing in January, 1880, the deaths numbered 64, the annual rate being also 64 per 1,000, and the temperature had fallen to a mean of 65°.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING FEBRUARY 21, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death rate per 1,000 of	Consumption.	Croup.	Diphtheria.	Enteric.	Malarial.	Scarlet.	Yellow.	Long diseases, acute.	Measles.	Puerperal diseases.	Smallpox.	Whooping cough.	All zymotic diseases.	Accidents and injuries.
Mo.	Bancor	20,000	42	8	20.8	12		1					1	1					
	Portland	46,200	4	17	24.3		1												
N. H.	Concord	14,000	3	5	18.6								30		1			1	1
Mass.	Boston	353,000	63	148	20.4			1	10	1			9		1			20	1
	Cambridge	20,000	6	15	15.6								1						
	New Bedford	27,000	4	10	19.3		1												
	Newburyport	13,800	1	2	18.9														
	Marlborough	7,500	1	3	13.9								4		3				
	Fall River	48,500	29	31.2	2														
	Plymouth	6,334	2	16.5	3														
	Lawrence	40,000	15	19.5	3			1	1				4		2				
	Worcester	52,000	24	21.0	4								3					3	
	Lowell	52,000	6	17	17.0	4		1	1	1			2						
	Lynn	37,000	4	13	18.3														
	Brockton	12,000	2	13.0	2								2						
	Milford	10,000	6	10.4	1														
	Holyoke	10,000	1	2	10.4														
	Somerville	23,000	1	4	9.1	1													
	Chicopee	11,000	2	5	23.7					1					1				1
	Springfield	12,500	1	4	16.7														1
R. I.	Providence	102,000	13	48	24.5	5			3		10		9		2	5		6	
Conn.	New Haven	69,000	15	39	26.0	0			1	1			2		2			1	
Vt.	Burlington	31,000	8	7	22.1				1				106		36	6	5	113	22
N. Y.	New York	1,097,563	209	519	24.6	86	17	12	12	6	9	10	106	36	6	7	2	46	27
	Brooklyn	564,448	72	209	19.3	37	8	1	10	1	4	2							
	Yonkers	19,000	1	5	13.7												1		
	Poughkeepsie	20,000	2	7	18.2														
	Newburg	17,568	1	3	8.9														
	Utica	35,000		5	7.4								3						2
	Rochester																		

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING FEBRUARY 21, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death rate per 1,000 of—	Consumption.	Croup.	Diarrheal diseases.	Diphtheria.	Enteric.	Malaria.	Scarlet.	Yellow.	Lung disease, acute.	Menses.	Puerperal diseases.	Small pox.	Whooping-cough.	All zymotic diseases.	Accidents and injuries.
Utah	Salt Lake City	25,000	4	7	14.6	1	1	1											3	
Cal	San Francisco	300,000	20	8	13.3	1		4						16	1					3
	Sacramento	25,000	2	12	25.0	2				1				2		1		1		
	Vallejo	5,000	2	1	10.4	1														
	Los Angeles	14,000	2	7	26.0	3	1			1				1						
Totals		8,407,949	1,139	3,019	18.5	463	77	49	102	48	34	91		121	49	35	8	43	418	82

* Boston has 370,000 white, 5,000 colored; deaths, 143 white, 5 colored. Rate per 1,000, white 20.1, colored 52.1. Lawrence has 39,800 white, 200 colored; deaths, 15 white. Rate in table. Providence has 98,200 white, 3,800 colored; deaths, 46 white, 2 colored. Rate per 1,000, white 24.4 colored 27.4. Reading has 40,000 white, 350 colored; deaths, 22 white. Rate in table. Wilmington, Del., has 39,000 white, 5,000 colored; deaths, 13 white, 5 colored. Rate per 1,000, white 17.3, colored 52.1. Baltimore has 343,715 white, 56,285 colored; deaths, 108 white, 28 colored. Rate per 1,000, white 16.2, colored 25.9. District of Columbia has 114,000 white, 56,000 colored; deaths, 46 white, 45 colored. Rate per 1,000, white 21.0, colored 42.2. Norfolk has 15,500 white, 8,500 colored; deaths, 2 white, 3 colored. Rate per 1,000, white 10.1, colored 16.4. Wilmington, N. C., has 6,714 white, 10,256 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 15.5, colored 51.1. Charleston has 25,000 white, 32,000 colored; deaths, 9 white, 11 colored. Rate per 1,000, white 18.8, colored 47.9. Savannah has 17,493 white, 15,163 colored; deaths, 8 white, 9 colored. Rate per 1,000, white 23.8, colored 30.9. Augusta has 15,246 white, 11,628 colored; deaths, 4 white, 3 colored. Rate per 1,000, white 13.7, colored 13.4. Atlanta has 25,373 white, 16,175 colored; deaths, 3 white, 7 colored. Rate per 1,000, white 6.1, colored 22.5. Jacksonville has 6,000 white, 4,000 colored; deaths, 4 white. Rate in table. Mobile has 28,000 white, 12,000 colored; deaths, 8 white, 10 colored. Rate per 1,000, white 14.9, colored 43.5. New Orleans has 125,000 white, 55,000 colored; deaths, 51 white, 37 colored. Rate per 1,000, white 17.1, colored 35.1. Shreveport has 4,500 white, 5,000 colored; deaths, 1 white, 2 colored. Rate per 1,000, white 11.6, colored 20.8. Memphis has 16,705 white, 13,854 colored; deaths, 6 white, 6 colored. Rate per 1,000, white 18.7, colored 22.4. Nashville has 17,585 white, 9,500 colored; deaths, 6 white, 12 colored. Rate per 1,000, white 17.5, colored 65.9. Chattanooga has 7,800 white, 5,520 colored; deaths, 5 white, 2 colored. Rate per 1,000, white 25.2, colored 20.7. Clarksville has 3,000 white, 3,000 colored; deaths, 1 colored. Rate in table. Louisville has 123,125 white, 21,875 colored; deaths, 24 white, 15 colored. Rate per 1,000, white 8.2, colored 42.9. Wheeling has 28,600 white, 900 colored; deaths, 7 white, 1 colored. Rate per 1,000, white 12.7, colored 57.9. Total white population, 1,569,416; deaths, 524; rate per 1,000, 17.1. Total colored population, 359,636; deaths, 208; rate per 1,000, 30.1.

The following reports, for the week ending February 21, are from places requiring burial permits, and having less than 5,000 population:

Brunswick, Ga., 4,000; deaths, 2; under 5 years, 1; diarrhoea, 1. Edgartown, Mass., 1,700; no deaths. Franklin, Tenn., 1,900; no deaths. Saint Augustine, Fla., 2,500; pneumonia 1. Shelbyville, Tenn., 2,000; deaths, 2, from consumption. Total population, 12,000; deaths, 5; under 5 years, 1; rate per 1,000, 21.7.

The following reports, for the week ending February 21, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 3; under 5 years, 1. Allegheny, Pa., 75,000; deaths, 19; under 5 years, 10; consumption, 3; diphtheria, 1, lung disease 1, whooping-cough 1. Bath, Me., 10,000; deaths, 2. Battle Creek, Mich., 7,500; deaths, 3; under 5 years, 2; lung disease 1, malarial fever 1. Bay City, Mich., 19,500; deaths, 1; under 5 years, 1; consumption 1. Belfast, Me., 5,278; pneumonia 1. Benton Co., Miss., 11,000; measles 1, under 5 years. Boulder, Col., 3,500; deaths, 2; under 5 years, 1. Brattleboro', Vt., 6,500; deaths, 3; consumption 1. Brownsville, Tex., 5,500; deaths, 1; consumption 2. Calais, Me., 7,000; deaths, 3. Cambridge, N. Y., 1,500; deaths, 1; under 5 years, 1; diphtheria 1, pneumonia 1, old age 1. Carrollton, Miss., 600; no deaths. Cedar Keys, Fla., 1,200; deaths, 2. Chatham, Conn., 4,000; no deaths. Chillicothe, Ohio, 12,000; deaths, 3; consumption 1. Chillicothe, Mo., 1,250; deaths, 3; under 5 years, 1; lung disease 3. Circleville, Ohio, 6,000; malarial fever 1, under 5 years. Clinton, Mich., 1,200; diarrhoea 1. Columbus, Ga., 9,000; deaths, 3; puerperal 1, old age 1. Cornsall, Miss., 2,300; no deaths. Crystal Springs, Miss., 1,000; no deaths. Chandlerland, Md., 1,000; deaths, 7; under 5 years, 2; consumption 3, puerperal 1. Dallas, Tex., 20,000; deaths, 5; consumption 2, pneumonia 1. Danbury, Conn., 9,750; deaths, 5; under 5 years, 2; lung disease 1. Davenport, Iowa, 27,000; deaths, 4; under 5 years, 2; consumption 1, diphtheria 1, lung disease 1. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. East Haven, Conn., 1,200; no deaths. Fairfield, Conn., 4,000; lung disease 1. Fayette, Miss., 200; no deaths. Ferdinand, Fla., 3,000; one death, under 5 years. Flint, Mich., 10,000; deaths, 3; diphtheria 1, lung disease 1. Galesburg, Ill., 11,000; deaths, 11; croup 2, diphtheria 1, malarial fever 3, scarlet fever 2, pneumonia 1, puerperal 1, whooping-cough 1. Greenville, Ala., 1,200; no deaths. Helena, Mont., 3,500; deaths, 3; under 5 years, 1; consumption 1. Huntington, Pa., 4,500; no deaths. Huntington, Tenn., 5,000; no deaths. Indianola, Tex., 200; pneumonia 1, under 5 years. Inka, Miss., 1,000; whooping-cough 1, under 5 years. Jefferson, Tex., 3,000; deaths, 1; croup 1, lung disease 1, puerperal 1. Jeffersonville, Ind., 10,500; deaths, 2; consumption 1. Kenosha, Wis., 5,000; consumption 1. Kingston, N. Y., 21,000; deaths, 5; under 5 years, 2; consumption 2, diphtheria 1, scarlet fever 1, whooping-cough 1. Lansingburgh, N. Y., 7,150; deaths, 6; under 5 years, 3; diphtheria 1, enteric fever 1, scarlet fever 1, lung disease 2. Lebanon, Pa., 9,000; deaths,

4; under 5 years, 2; consumption 1, enteric fever 1, scarlet fever 1. Louisiana, Mo., 3,200; no deaths. Madison, Ind., 12,000; deaths, 3; malarial fever 1, lung disease 1. Marquette, Mich., 3,500; deaths, 2; under 5 years, 1; pneumonia 1. Martinsburg, W. Va., 6,000; consumption 1. Meridian, Miss., 5,000; deaths, 3. Milldeleville, Ga., 3,000; no deaths. Mount Pleasant, Iowa, 5,000; deaths, 2; under 5 years, 1. Muscatine, Iowa, 7,537; one death. Muskegon, Mich., 13,000; deaths, 3; under 5 years, 4; diphtheria 3, malarial fever 1, scarlet fever 1, pneumonia 1, whooping-cough 1. Nebraska City, Nebr., 5,000; deaths, 2; diarrhoea 1. New Castle, Pa., 10,000; deaths, 2; consumption 1, lung disease 1. Newport, Ky., 25,000; deaths, 14; under 5 years, 1; enteric fever 1, malarial fever 1, lung disease 1, old age 1. Norwalk, Conn., 15,200; deaths, 5; lung disease 1. Oshkosh, Wis., 18,000; deaths, 14; under 5 years, 3; diphtheria 1, lung disease 1, old age 1. Painesville, Ohio, 5,000; no deaths. Phenixville, Pa., 6,000; consumption 1. Pontotoc, Miss., 600; no deaths. Port Jarvis, N. Y., 10,000; deaths, 1; under 5 years, 2; croup 1, scarlet fever 1. Pulaski, Tenn., 2,100; pneumonia 1, under 5 years. Ripley, Miss., 1,000; no deaths. Rockland, Me., 7,000; deaths, 5; under 5 years, 1; consumption 2, croup 2. Santa Cruz, Cal., 5,000; no deaths. Senatobia, Miss., 1,500; one death, under 5 years. Springfield, Ohio, 20,000; deaths, 3; consumption 1, diphtheria 1. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; 2 deaths. Summit, Miss., 2,550; croup 1, under 5 years. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; deaths, 3; consumption 1, diphtheria 1, old age 1. Tuscaloosa, Ala., 3,000; pneumonia 1. Victoria, Tex., 3,500; deaths, 2; consumption 1, pneumonia 1, puerperal 1. Waterbury, Conn., 16,000; deaths, 7; under 5 years, 2; croup 1, scarlet fever 1, lung disease 3. Waxahatchie, Tex., 2,000; lung disease 2. Wesson, Miss., 2,000; no deaths. Winchester, Va., 5,700; deaths, 2; pneumonia 1. Winona, Minn., 10,000; deaths, 2; under 5 years, 1; whooping-cough 1. Youngstown, Ohio, 17,000; lung disease 2, under 5 years. Total population, 682,092; deaths, 202; under 5 years, 5; annual death-rate, 15.4 per 1,000.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending February 21 comprise a total population of 8,197,919, being 115,002 more than last week. The number of deaths having decreased in greater proportion, from 3,203 to 3,019, the annual rate of mortality falls to 18.5 per 1,000. The changes in the principal elements have been small, and are as follows: *Decreased*, consumption and lung diseases, from 5.29 to 5.13; diphtheria, from 0.92 to 0.63; enteric fever, from 0.38 to 0.29; and measles, from 0.32 to 0.29. Whooping-cough has increased from 0.22 to 0.26 deaths per 1,000 of population per annum, while the rate for scarlet and malarial fevers remains nearly the same as last week. Deaths from small-pox are reported from only three cities: Worcester, Mass., 2; Philadelphia, 5; and one in the District of Columbia.

11.

[illegible]

[illegible]

SANITARY LEGISLATION IN MISSOURI.

[An ordinance to regulate the construction of house-drains.]

Be it ordained by the municipal assembly of the city of Saint Louis, as follows :

SECTION 1. It shall be unlawful hereafter to construct or extend any drain for the reception of sewage or waste water under or into any hotel, tenement house or dwelling, or to connect the same with any public or district sewer, unless the said drain shall, in its plan and construction, conform to the following requirements: First. There shall be in said drain a trap so constructed as to bar the passage of air from beyond the trap into the house by an obstacle equal to at least one inch in depth of water. Second. Between said trap and the sewer, there shall be a pipe connected with the said drain an inlet-pipe for the admission of fresh air, and the soil-pipe within the house shall be continued above the roof and left open so that the whole drain may be thoroughly and constantly ventilated.

SEC. 2. Whenever any person desires to construct a house-drain, intended to be connected with or discharge into any public or district sewer, he shall, before beginning work upon the same, deposit with the sewer commissioner a plan thereof, which plan shall show the whole course of the drain from its connection with the sewer to its terminus within the house, with the location of all branches, traps, and fixtures to be connected therewith, said plan or a copy thereof to be left on file in the office of the said commissioner. If the same respects a building already constructed, the commissioner shall find that the same does not conform to the requirements of the foregoing section, he shall not issue any permit for its construction or connection with any public or district sewer, and it shall be unlawful to construct said drain or to connect the same either directly or indirectly with any public or district sewer.

SEC. 3. The sewer commissioner or his duly authorized agents shall have the right to enter upon the premises drained by any house-drain constructed hereafter and connected with any public or district sewer, at all reasonable hours, to ascertain whether the provisions of this or any ordinance in regard to house-drains have been complied with, and if he shall find that said drain or its attachments do not conform to the provisions of law in regard thereto he shall notify the owner of said premises or his agent of this fact. It shall thereupon be the duty of said owner or his agent to cause said drain or its attachments to be so altered, repaired, or reconstructed as to make them conform to the requirements of law in regard thereto within fifteen days from the time of receiving such notice.

SEC. 4. Any person who shall violate any of the provisions of this ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than ten nor more than one hundred dollars.

Approved January 15, 1880.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
1880.																		
Vanuover's Island.	Victoria.	5,000.	Feb. 14	2	20.9													38
Canada.	St. John's.	5,000.	Feb. 21	1	10.4													28
Do.	Kingston.	16,000.	Feb. 21	3	9.7											1		24.1
Cuba.	Havana.	195,437.	Feb. 14	125	33.4													77
Guadeloupe.	Point à Pitre.	22,919.	Jan. 17	8	18.4													79.7
Do.	do.	22,919.	Jan. 24	18	41.1													82.4
Do.	do.	22,919.	Jan. 31	14	32.3													77
Haiti.	Aux Cayes.	8,000.	Jan. 31	3	19.5													83.5
Do.	do.	8,000.	Feb. 7	4	26.1													84
Do.	Port-au-Prince.	30,000.	Feb. 4	18	31.3													86
Do.	do.	30,000.	Feb. 11	13	22.6													
Mexico.	Matamoros.	16,000.	Jan. 31	6	19.5													64.8
Do.	do.	16,000.	Feb. 7	6	19.5													64.7
Do.	do.	16,000.	Feb. 14	7	22.7													66.3
Pera.	Iquique.	5,000.	Jan. 22	16	106.9					26	4							77
Brazil.	Bahia.	135,000.	Jan. 10	57	29.5							1		1				77
Do.	do.	135,000.	Jan. 17	89	54.1													
Do.	do.	135,000.	Jan. 24	87	33.4													
Do.	do.	135,000.	Jan. 31	91	34.9							2		1				
Do.	Pernambuco.	126,575.	Jan. 11	60	24.7													
Do.	do.	126,575.	Jan. 18	53	21.4													
Do.	do.	126,575.	Jan. 25	62	25.5													
Do.	do.	126,575.	Feb. 1	57	23.5													
Do.	do.	126,575.	Feb. 8	52	31.4													
Tenoriffe.	Santa Cruz.	10,610.	Jan. 24	4	18.8													67.1
Do.	do.	10,610.	Jan. 31	6	18.8													67.3
Ireland.	Dublin.	314,660.	Feb. 7	257	42.5													25
Do.	Belfast.	212,000.	Feb. 7	107	30.6													42.57
Scotland.	Leith.	58,000.	Feb. 7	24	41.4													46
Do.	do.	58,000.	Feb. 7	26	23.4													39.5
England.	Liverpool.	538,338.	Feb. 14	312	30.2							2	1	22	4	25	29	41.1
Do.	Bristol and Clifton.	213,500.	Feb. 7	167	41.5													12
France.	Paris.	1,388,806.	Feb. 12	1,321	59.8							3						82
Do.	Havre.	32,068.	Feb. 7	87	48.2							102						35.6
Do.	Lyon.	342,815.	Feb. 7	288	43.1													
Do.	Rouen.	104,902.	Feb. 14	136	67.6							1						
Switzerland.	Zurich.	24,103.	Feb. 7	8	19.2													
Holland.	Rotterdam.	150,378.	Feb. 7	106	37.6													18
Do.	do.	150,378.	Feb. 14	85	30.2							2						17
Germany.	Berlin.	1,062,500.	Jan. 31	520	25.6							10	2			159	53	27
Do.	Mannheim.	50,500.	Feb. 7	25	27.2													21
Do.	do.	50,500.	Feb. 14	27	29.3													27
Do.	Breslau.	270,000.	Jan. 31	134	25.9							3	1	1		18	12	23
Do.	Frankfurt-on-Main.	126,000.	Feb. 7	51	21.1													23.9
Do.	Barmen.	16,000.	Feb. 7	57	35.2													41
Do.	Stuttgart.	105,825.	Feb. 7	63	31.0													37.5
Do.	Brusswick.	74,138.	Feb. 7	32	21.2													2
Do.	Bremen.	105,000.	Feb. 7	60	29.8													8
Saxony.	Leipzig.	150,836.	Feb. 7	72	24.8													8
Do.	Dresden.	218,000.	Jan. 31	90	15.8							1	1			4	4	36.4
Do.	Chemnitz.	80,000.	Feb. 7	39	22.9													4
Belgium.	Brussels.	390,482.	Jan. 31	204	26.6													15
Do.	do.	390,482.	Feb. 7	105	25.7							4	1					6
Do.	Antwerp.	169,981.	Jan. 24	99	30.4													3
Do.	do.	169,981.	Jan. 31	86	26.4													19
Do.	do.	169,981.	Feb. 7	103	31.6													32
Bavaria.	Munich.	90,000.	Feb. 7	47	27.2													41
Denmark.	Copenhagen.	225,000.	Feb. 3	126	29.2													25.3
Italy.	Naples.	458,614.	Dec. 13	269	30.6													5
Do.	do.	458,614.	Dec. 20	250	28.4													7
Do.	Leghorn.	97,880.	Feb. 7	72	38.4													45
Do.	Venice.	141,218.	Feb. 11	64	24.1													48.7
Do.	do.	141,218.	Jan. 3	155	57.3							2		1				10
Do.	do.	141,218.	Jan. 10	119	44.1													8
Do.	do.	141,218.	Jan. 17	129	44.3													75.2
Do.	do.	141,218.	Jan. 24	114	42.1													78.8
Do.	do.	141,218.	Jan. 31	121	48.0													71.6
Austria.	Vienna.	237,285.	Jan. 24	410	29.0													20
Do.	do.	237,285.	Jan. 31	397	27.4							10						26
Do.	do.	237,285.	Feb. 7	438	31.0													23
Do.	Trieste.	127,873.	Jan. 24	109	44.5													19.8
Hungary.	Buda Pesth.	300,705.	Jan. 31	213	36.1													2
Russian Poland.	Warsaw.	336,703.	Jan. 31	128	18.8													1
Sweden.	Stockholm.	169,429.	Jan. 31	71	21.8													35.4
Norway.	Christiania.	113,000.	Jan. 31	27	12.5													28.9
Spain.	Madrid.	115,482.	Feb. 7	45	20.3													27.9
Do.	Barcelona.	19,000.	Jan. 31	3	8.2													50.2
Do.	do.	19,000.	Feb. 7	11	30.2													56.2
Barbary.	Tripoli.	20,000.	Jan. 24	9	25.5													54.3
Do.	do.	20,000.	Jan. 31	5	13.0													52
																		56.1

MESSINA, SICILY.—United States Consul George H. Owen reports 210 deaths for the month of November, 1879, in a population of 76,980. No disease is specified except typhoid fever, which caused 2 deaths. The annual death-rate was 27.2 per 1,000, and the general sanitary condition is reported good.

PARA, BRAZIL.—United States Consul A. C. Prindle reports 111 deaths during the month of January, in a population of 40,000, being at the annual rate of 27.75 per 1,000. The only diseases noted were small-pox, which caused 4 deaths, and typhus fever, one death. Malarial fevers were prevalent, but no epidemic existed.

TOKYO, JAPAN.—January 16, Hon. J. A. Bingham reports that from the beginning of the epidemic of cholera in that empire, in April, 1879, to December 27, there were 168,344 persons attacked. Of these 101,364 died, 47,885 recovered, and 19,065 remained under treatment at the close of the year.

VALPARAISO, CHILE.—United States Consul L. H. Foote reports 1,120 deaths in the month of December, 1879. The population being 101,088, the annual death-rate was nearly 133 per 1,000; this excessive rate was chiefly due to the ravages of small-pox, which caused 502 deaths during the month. Bad sanitary conditions keep up the disease.

National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, MARCH 13, 1880.

[No. 37.]

QUESTIONS FOR HEALTH AUTHORITIES.

The following questions, prepared by Dr. J. H. Raymond, sanitary superintendent, health department, Brooklyn, N. Y., a correspondent of the National Board of Health, are here presented for the purpose of securing replies from persons interested in the subject to which they refer. Replies to these various questions, numbered in like manner, are respectfully requested, that the information so derived may hereafter be summarized and published in the BULLETIN:

1. Are contagious diseases reported to the health authorities?
2. What are the contagious diseases so reported?
3. Are these reports obligatory or voluntary; if obligatory, upon whom?
4. Is there any penalty for failure to report; if so, what?
5. What is the form of report?
6. Are those who make the reports compensated in any way?
7. Are schools notified of the locations where contagious diseases exist; if so, how, and how often?
8. Are children from infected houses excluded from school attendance?
9. Is such exclusion obligatory or voluntary?
10. If obligatory, upon whom, and what is the penalty if they are not excluded?
11. At what time are such children permitted to return to school, and upon what form of authorization?
12. Does the health authority send inspectors to houses from which contagious diseases are reported?
13. What do the inspectors do when they visit the premises?
14. Do they examine the plumbing?
15. If defects are found what steps are taken to remedy them?
16. Is there any ordinance or law requiring such defects to be remedied; if so, what are the penalties for neglecting to make the repairs ordered?
17. Is fumigation practiced after recovery and death; if so, how, and by whom?

AN ABSTRACT OF THE REGISTRATION LAWS OF VIRGINIA.

[By Dr. JAMES L. CABELL.]

The constitution of the State, adopted in 1867, and now in force, contains the following clause:

Article V, sec. 21: "The general assembly shall provide for the annual registration of births, marriages, and deaths."

This section is taken from the 36th of the former constitution, 4th article, which, however, specifically required a distinction to be made between the registration of the births, marriages, and deaths in the white population, and that of the births and deaths in the colored population, distinguishing between the numbers of the free colored persons and the slaves.

Among the various acts passed by the general assembly at different times to enforce this requirement of the constitution, I may cite the following provisions as contained in the Code of Virginia, 1873:

CHAPTER CIV.—OF MARRIAGES, BIRTHS, AND DEATHS.

SEC. 1. Every license for marriage to be issued by the clerk of the court of the county or corporation in which the female to be married usually resides, &c.

SEC. 2. Every license so issued to be registered in a book to be kept by the clerk for that purpose.

SEC. 4. Any minister of a religious denomination who may be authorized by the court to celebrate the rites of marriage to give bond in the penalty of five hundred dollars.

SEC. 7. Marriage without license prohibited, but no marriage solemnized by any person professing to be authorized to solemnize it shall be deemed void on account of want of authority of such person.

SEC. 14. The clerk of every county and corporation court to keep three books, to be called, respectively, the register of marriages, the register of births, and the register of deaths.

SEC. 15. Every minister or other person celebrating a marriage, at once to make a record of every marriage solemnized by or before him, stating in such record whether the persons be white or colored, and within two months after such marriage to return a copy thereof signed by him to the clerk of the county or corporation in which the same is solemnized. The clerk issuing a marriage license to require from the party obtaining it a certificate setting forth the date and place of the proposed marriage, the full names of both parties, their ages and condition before marriage (whether single or widowed), the places of their birth and residence, the names of their parents, and the occupation of the husband.

SEC. 17. The clerk is to record a full abstract of the license and certificate in his register of marriages, setting out in convenient tabular form all the circumstances stated in said license, and the minister's certificate, and the name of the person signing the certificate, and make an index of the names of the parties married.

SEC. 19. If any minister who shall give bond in order to his being authorized to celebrate marriage in Virginia, shall fail to comply with the 15th section, the condition of such bond shall be deemed to be thereby broken, and he shall also be subject to the penalty hereinafter prescribed for such failure.

REGISTER OF BIRTHS AND DEATHS.

SEC. 21. Every assessor or commissioner of the revenue shall make an annual registration of the births and deaths in his district. When he ascertains the personal property subject to taxation, he shall ascertain the births and deaths that have occurred in the year ending the thirty-first day of December preceding, and such circumstances as he is hereinafter required to record; he shall ascertain the births and deaths in each family from the head of such family if practicable.

SEC. 22. He shall record in a book to be kept by him for that purpose, so far as can be ascertained, the date and place of every such birth, the full name of the child (if it has a name), the sex and color thereof; also, whether the child was born alive or still-born, the full name of the mother, and, if the child be born in wedlock, the full name, occupation, and residence of the father; if there be more than one child born at one birth, the fact and numbers shall be stated, and any other circumstance of interest relating to any birth.

SEC. 23. Every such assessor or commissioner shall, in like manner, record in a book to be kept by him for that purpose, the place and date of every death in his district during the year ending on the preceding thirty-first day of December, the full name, sex, age, condition (whether married or not), and color of the deceased; also the occupation, if any, of the deceased, and his or her place of birth, the names of his or her parents, and, if the deceased was married, the name of the husband or wife; also, the disease or cause of the death, so far as such facts can be ascertained.

SEC. 24. The assessor or commissioner shall alphabetically arrange each of the books so to be kept by him, and the same shall, in other respects, be in the form to be published, and in the manner prescribed by the auditor of public accounts, and shall make and subscribe an affidavit therein to the effect that he has pursued the directions in this chapter according to the best of his skill; he shall make two copies of each of said books, and shall return one copy of each to the clerk of the county court, and the remaining copy to the auditor of public accounts, on or before the first day of July, annually.

SEC. 25. It shall be the duty of every such clerk, without recording the same, to file each copy so returned to him in his office, arranged in such a manner that the copies of any year may be accessible and may be examined by any party interested therein. In addition to the compensation now allowed by law to assessor or commissioner of the revenue, the sum of ten cents shall be paid to every such assessor or commissioner for each birth and death listed in his township under the provisions of this chapter. Upon the certificate of said clerk that the returns required to be made by him by the

preceding section has been made according to law, and upon the receipt by the auditor of the return required to be made to him, the same being in the form required and in the time prescribed, the amount allowed by this section shall be paid, upon the warrant of the auditor of public accounts, out of the public treasury.

SEC. 26. On or before the first of March in each year, the clerk of every county or corporation court shall transmit to the auditor of public accounts a copy of his register of marriages, and so much of his record, made at the time of issuing such licenses, as is not contained in his said register of marriages, which was taken by him within the year next preceding the first day of January, distinguishing by appropriate columns or notes the licenses issued in which the minister's certificate of marriage has not been returned, and the licenses containing such certificate.

SEC. 27. Such copies shall be filed and preserved in the said auditor's office, and from them the auditor shall prepare an abstract annually of marriages, births, and deaths in each county and corporation, and make a report upon said registrations once in every period of two years, to be laid before the general assembly.

SEC. 28. Hereafter there shall be allowed to the clerks of the county and corporation courts a compensation of three cents for every marriage reported to said clerks by those required by law to do so, to be paid out of the treasury on the warrant of the auditor of public accounts, to be issued to the clerks severally entitled thereto upon the return of the copy of such record required by law to be made to the said auditor.

SEC. 29. If an assessor or commissioner in any case cannot obtain the requisite information concerning any birth or death from the head of a family, as herein before required, he shall obtain the same from such persons as are hereinafter required to give it, or if that cannot be done, from any other persons, always recording the name of the person giving the information.

SEC. 30. Every physician and surgeon shall, in a book to be kept by him, make a record at once of the death of every person dying in this State, upon whom he has attended at the time of such death, setting out as far as practicable the circumstances herein required to be recorded by an assessor or commissioner respecting death. He shall give to an assessor or commissioner of the revenue, whenever called on by him for that purpose, annually, a copy of such record, so far as the same relates to deaths in such assessor's or commissioner's district.

SEC. 31. Every coroner shall keep a like record of the deaths in relation to which he acts officially, and give a copy thereof to any assessor or commissioner of the revenue whenever called on by him for that purpose, annually, so far as the same relates to deaths in such assessor's or commissioner's district. For every neglect or failure to perform any duty required of him by this section a coroner shall forfeit twenty dollars.

SEC. 32. The assessor or commissioner shall make such entries or corrections in his record of deaths as may be supplied or warranted by the copies so to be furnished him by physicians, surgeons, and coroners, noting the source of information.

SEC. 33. The head of any family, if he be not at his residence when the assessor or commissioner calls there to obtain the information required by this act to be obtained of him, shall give the same information to the proper assessor or commissioner of the revenue, on or before the first day of June in the same year; and for a failure or neglect to do so, shall forfeit one dollar. If any head of a family, being lawfully requested to give any such information, shall refuse to give the same, he shall forfeit ten dollars.

SEC. 34. If any assessor or commissioner of the revenue fail to obtain any information respecting a birth or death, which he is by this act authorized or required to obtain, and which he can procure, he shall for every such failure, and for every failure to record the information acquired by him respecting a birth or death, according to this act, forfeit five dollars.

SEC. 35. If any assessor or commissioner of the revenue fail to perform the duties required of him by the 24th section of this act, he shall forfeit fifty dollars.

SEC. 36. If any clerk of a court fail to perform any duty required of him by the 15th section of this act, he shall forfeit ten dollars for every such offense; and if he fail to perform any duty required of him by the 25th and 26th sections, he shall for every such offense forfeit fifty dollars.

SEC. 37. This section imposes a penalty of not less than one hundred nor more than five hundred dollars on any clerk of a court, assessor, or commissioner of the revenue, physician, surgeon, coroner, or minister celebrating a marriage, or clerk or keeper of the records of any religious society, if he shall knowingly make any false, erroneous, or fraudulent entry, record, registration, or written statement in any book, register, or record which he is required by this act to keep or make, &c.

SEC. 38. If any person upon whose information or statement any record or registration may lawfully be made under this act, shall knowingly give any false information or make any false statement, to be used for the purpose of making any such record or registration, he shall forfeit not less than fifty nor more than three hundred dollars for every such offense.

It will be seen from the foregoing abstracts of the laws of Virginia relating to the registration of marriages,

births, and deaths that they are sufficiently comprehensive. In so far as they apply to the registration of deaths there is the obvious objection that when the information is collected but once a year a very considerable proportion of the deaths will not be reported at all. Partly for this reason, and partly because the pecuniary inducement of ten cents for each death recorded by the assessor is an inadequate stimulus, and the penalties imposed by the law for neglect of duty are seldom or never enforced, it is a conceded fact that in Virginia the registration of births and deaths is shamefully defective.

When the general assembly passed, in 1872, the act "to establish a State board of health and vital statistics," it was required, by section 2, that the board "shall devise some scheme whereby medical and vital statistics of sanitary value may be obtained." But this clause and other parts of said act have been wholly inoperative ever since the date of its passage, by reason of the refusal of the general assembly to make any appropriation for carrying the act into execution.

The failure of the law to accomplish the end for which it was designed being due rather to its non-execution, or a very slovenly execution, than to inherent defects in the law itself, it is not easy to point out a remedy for the evil. Nevertheless, I venture to suggest a few slight changes in the law, which, if adopted by the general assembly, might possibly work a considerable improvement. I would suggest, first, an increase of the fee allowed the assessor or commissioner for each birth and death reported, making it twenty or twenty-five cents in lieu of ten cents as now allowed. It is, however, doubtful whether the general assembly can be induced to pass such an amendment.

Secondly. The penalties imposed by the law on assessors, coroners, heads of families, &c., for failure to perform their respective duties ought to be vigorously enforced, and a like penalty should be imposed on physicians and surgeons for non-fulfillment of the duty required in section 31.

It might be made the duty of the supervisors of the county at the annual meeting which they are required to hold at the county court-house for certain specified purposes, to examine the books of the assessors or commissioners containing the record of births and deaths, with the object of giving each supervisor an opportunity of detecting errors and noting omissions for his particular township. While it is in the last degree improbable that any supervisor would know all the births and deaths taking place in his township in the preceding year, the chance of his knowing many would possibly act as a stimulant to the assessors to be careful in collecting all, if the detection of a single omission would expose him to the risks of incurring the penalties imposed by the law. It should be made the duty of the supervisors to enforce these penalties.

Thirdly. I am informed that ministers of the gospel seldom ever fail to report the marriages which they celebrate, so that if the clerk of the court were to lose the record of the licenses granted, the loss might be repaired by the certificate of the ministers. In this State almost

all burials are conducted by ministers of religion. They might be required to report them. It would be perfectly easy for them to get from the heads of families the necessary details, with this further precious advantage, that the record would be contemporaneous with the event, as in case of the record made by physicians, instead of being made by the assessor on information obtained many months after the event. The number of burials without the service of a minister would be far smaller than that of deaths without the services of a physician.

REGISTRATION LAWS OF MASSACHUSETTS.

COMMONWEALTH OF MASSACHUSETTS, IN THE YEAR 1880.

(An act to compel a more accurate registration of births.)

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SEC. 1. It shall be the duty of every physician and midwife in the several cities and towns in this commonwealth, excepting Boston, to report on or before the fifth day of each month to the clerk of each city and town a correct list of births of all children born therein during the month next preceding at which such physician or midwife was present, stating therein the place, date of each birth, and parents' names.

SEC. 2. Town and city clerks shall give public notice that they are prepared to furnish the necessary blanks to all physicians and midwives applying therefor.

SEC. 3. Any physician or midwife neglecting to report such list for ten days after it is due shall, for each offense, forfeit a sum not exceeding twenty dollars.

SEC. 4. This act shall take effect upon its passage.

HOUSE CONNECTIONS ORDINANCE.

SEC. 1. *Be it ordained by the legislative council:* That it shall be a misdemeanor to do, or cause to be done, any of the following acts, except as herein provided, and any and all persons guilty thereof shall be fined not less than one nor more than fifty dollars.

SUB-SEC. 1. To uncover the public sewer for any purpose or make connections therewith, or uncover the public connection branches thereof, unless and except by the consent and under the supervision of the district engineer, or his duly authorized agent or agents, whose duty it shall be to insure full compliance with this ordinance in relation to connections, and a failure of duty in this respect shall subject such engineer or agents to all the penalties in this ordinance.

SUB-SEC. 2. To make, or cause to be made, any such connections except as above provided, and by a competent and skillful mechanic, duly licensed to do such work, by the legislative council, such mechanic not to be the agent of the district engineer, or to make such connections in any other manner than as follows:

A.—Every pipe connecting with the sewer, whether of cast iron or earthenware, must be sound and impervious in all its parts, and joined in the best manner.

B.—Gaskets must be used in all cases; no other metal than cast iron will be allowed, and joints in iron pipe must be of well-raked lead.

C.—Cement pipe is not to be used, but earthenware pipes of the best quality, jointed with fresh strong cement mortar.

D.—These pipes to be laid at least two feet deep, and above that depth, the vertical pipes to be cast iron, and all pipes from the sewer connection to the top of the soil-pipe to be fully four inches in interior diameter at every point.

E.—No trap or any manner of obstruction to the free flow of air through the whole course of the drain and soil-pipe to be allowed, and any mechanic who shall directly or indirectly place, make, or cause or allow to be placed or made, any trap, contraction or other obstacle anywhere in the course of such pipe, in addition to the penalty herein prescribed, shall forfeit his license, and shall be ineligible to re-license for one year, and any other person offending as above shall be subject to the penalties of the ordinance, and shall, in addition, pay the costs of retifying the wrong done.

F.—Every connection of a water-closet, sink, basin, or other vessel connected with the pipe must be separated from it by a trap, offering an obstacle to the passage of air equal to not less than three-eighths of an inch depth of water.

G.—All details of plumbing work, such as water-closets, sinks, &c., must be in accordance with the plans and descriptions in the office of the district engineer, bearing the approval of the consulting engineer, or such other person as the legislative council may appoint.

SUB-SEC. 3. For the owner or occupant of any building, any portion of which is used for any purpose, during any portion of the day, to fail to have at least one water-closet connected with the public sewer fifteen days after notification from the engineer or president of the fire and police commissioners, and to fail to have such water-closet suitably adapted for use as a urinal, unless a separate urinal is provided.

SUB-SEC. 4. For the owner or occupant of any building in which food is cooked or clothing is washed to fail to have a suitable sink, slop-stone, or hopper for the reception of waste water: *Provided, however,* That if the water-closet is of a kind suited to such use it may receive the waste water, and the sink, slop-stone, or hopper may be dispensed with.

SUB-SEC. 5. To throw or allow to be thrown or deposited on the surface of the ground or in any hole or vault in or under the surface of the ground in the taxing district, whether public or private, except in the proper and necessary manuring of the soil, any water which has been used for domestic purposes, or any liquid or solid filth, feces, or urine.

SUB-SEC. 6. To allow any surface water or rain water from the ground, or roofs of houses, to enter any sewer or drain, or any vessel or slop-stone connected with any sewer or drain, or to admit any drainage water from any cellar to a sewer: *Provided, however,* That drainage for cellars may be provided in accordance with the regulations, plans, and descriptions in the district engineer's office, and subject also to the restrictions of sub-section one of this ordinance.

SUB-SEC. 7. To use or cause to be used any house-drains for any other purpose or purposes than those specified in this ordinance, except by special permission from the legislative council.

SUB-SEC. 8. To throw or deposit, or cause or permit to be thrown or deposited, in any vessel or receptacle connected with a public sewer, any garbage, hair, ashes, fruit or vegetables, peelings, or refuse, rags, cotton, clinders, or any other matter or thing whatsoever, except feces, urine, the necessary closet paper, and liquid house-slops. And it is hereby made the duty of all citizens to aid the police in bringing offenders against this ordinance to punishment, and also to prevent breaches of the same.

Passed March 1, 1880.

D. T. PORTER,

Chairman Legislative Council.

Attest:

C. L. PULLEN, Secretary.

ABSTRACTS FROM CONSULAR REPORTS.

MONROVIA, LIBERIA.—United States Consul-General J. H. Smyth, under date of November 14, gives the following account of this city:

Monrovia is situated at the base of Cape Mesurado, which at its northern extremity is a broad, high promontory, covered with dense tropical vegetation. To the south, the descent is abrupt, forming a valley which is the site of the city, bounded on the east by the mouths of the Saint Paul and Mesurado Rivers, and Stockton Creek; the ocean forms the northern and western boundaries. To the north of the rivers, and east of the town, are dense mangrove swamps, and a marsh extends nearly through the entire length of the town, from north to south. To these undrained grounds are due many of the malarial diseases, which prevail chiefly about the beginning and end of the rainy season. No contagious disease has yet existed here in an epidemic form, though a few cases of small-pox have occurred, brought here by Kroomen employed elsewhere on the coast. Compared with other parts of the west coast of Africa, Liberia may be regarded as a very healthy region. Kidney diseases are common, and also diseases of the liver, due to malarial influence. In the hot season, diarrheal diseases are most fatal, and cerebral affections are common. The so-called "African fever" does not differ, at least in Liberia, from the *remittent* and *bilious fevers* of the United States. During the year ending October 31, 1878, there were 21 deaths in a population of about 2,800, being at the rate of 10.5 per 1,000 per annum. The chief causes of death, as reported by Dr. J. W. Davis, were as follows: Consumption 1; cerebral diseases 4; malarial fevers 3; diarrhoea 3; dysentery 2; puerperal 1; not classified 1.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

MORGAN CITY, LA.—Dr. J. H. P. Wise, under date of February 11, sends a report of the cases of yellow fever occurring at Berwick, La., during the late epidemic. The record, which is in detail, shows a total of 75 cases, of which 59 recovered and 16 died. The cases were divided as follows: White 66, colored 9; adults 28, children 37. Of the deaths, 13 were whites and 3 of colored people, but the relative populations are not given.

SAN ANTONIO, TEX.—Dr. P. Middleton, U. S. Army, Medical Director of the Department of Texas, under date of February 20, forwards report of the past season. Dr. King, at Fort McIntosh, announcing three new cases of small-pox among the soldiers since February 15. The whole command was vaccinated February 16, and no more cases are likely to occur.

WISNAPPE, MISS.—Under date of February 24, Dr. W. Giles reports that only one death has occurred in this village, of 125 inhabitants, since January 1. (Reported on page 229 of the BULLETIN.)

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING FEBRUARY 28, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

[illegible]

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING FEBRUARY 28, 1880—Continued.
CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death rate per 1,000 of—	Consumption.	Croup.	Diarrhoeal diseases.	Diphtheria.	Etiætic.	Malaria.	Scarlet.	Yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small pox.	Whooping cough.	All zymotic diseases.	Accidents and injuries.
Cal.....San Francisco.....	305,060	26	87	14.9	10	2	.....	1	2	2	.....	.....	19	.....	1	.....	11	3	1
.....Sacramento.....	25,000	1	4	8.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
.....Los Angeles.....	16,000	3	9.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
.....Vallejo.....	7,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	8,463,790	1,200	3,190	19.6	520	71	54	135	47	34	87	.....	488	60	44	6	45	473	81

NOTE.—In the monthly report, on page 263, the deaths given for Norfolk are only those of the whites. Add 21 for the colored population, making the total 49, and the death-rate 24.5.

*Boston has 370,000 white, 5,000 colored; deaths, 160 white, 6 colored. Rate per 1,000, white 22.5, colored 62.6. Lawrence, Mass., has 39,800 white, 200 colored deaths, 13 white. Rate in table. Reading has 49,000 white, 350 colored; deaths, 16 white. Rate in table. Baltimore has 343,715 white, 56,285 colored; deaths, 99 white, 41 colored. Rate per 1,000, white 14.9, colored 38.6. District of Columbia has 114,000 white, 56,000 colored; deaths, 55 white, 46 colored. Rate per 1,000, white 23.8, colored 43.1. Norfolk has 15,500 white, 9,500 colored; deaths, 5 white, 8 colored. Rate per 1,000, white 16.8, colored 43.6. Richmond has 46,000 white, 34,000 colored; deaths, 10 white, 21 colored. Rate per 1,000, white 11.3, colored 32.2. Wilmington, N. C., has 6,714 white, 10,286 colored; deaths, 2 colored. Rate in table. Charleston has 23,000 white, 32,000 colored; deaths, 10 white, 25 colored. Rate per 1,000, white 20.8, colored 40.7. Savannah has 17,493 white, 13,163 colored; deaths, 4 white, 9 colored. Rate per 1,000, white 11.9, colored 30.9. Augusta has 16,176 white, 10,824 colored; deaths, 7 white, 3 colored. Rate per 1,000, white 22.5, colored 14.4. Atlanta has 25,573 white, 16,175 colored; deaths, 2 white, 12 colored. Rate per 1,000, white 4.1, colored 28.7. Mobile has 28,000 white, 12,000 colored; deaths, 7 white, 3 colored. Rate per 1,000, white 13.0, colored 12.0. New Orleans has 155,000 white, 35,000 colored; deaths, 68 white, 41 colored. Rate per 1,000, white 22.9, colored 38.9. Shreveport has 4,500 white, 5,000 colored; deaths, 2 white, 3 colored. Rate per 1,000, white 9.2, colored 31.3. Memphis has 16,765 white, 13,954 colored; deaths, 10 white, 11 colored. Rate per 1,000, white 19.9, colored 31.2. Clarksville has 3,000 white, white 20.1, colored 61.6. Chattanooga has 7,860 white, 5,020 colored; deaths, 3 white, 3 colored. Rate per 1,000, white 19.9, colored 31.2. Clarksville has 3,000 white, 3,000 colored; deaths, 1 white. Rate in table. Louisville has 153,125 white, 21,875 colored; deaths, 32 white, 10 colored. Rate per 1,000, white 10.9, colored 23.8. Wheeling has 28,600 white, 300 colored; deaths, 19 white. Rate in table. Jacksonville, Ill., has 11,500 white, 500 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 7.2, colored 104.3. Total white population, 1,496,461; deaths, 532; rate per 1,000, 18.3. Total colored population, 374,032; deaths, 258; rate per 1,000, 35.9.

The following reports, for the week ending February 28, are from places requiring burial permits, and having less than 5,000 population:

Brunswick, Ga., 3,000; no deaths. Edgartown, Mass., 1,400; no deaths. Morgan City, La., 2,500; no deaths. Murfreesboro, Tenn., 4,000; no deaths. Nantucket, Mass., 3,000; deaths, 3; consumption 2. St. Augustine, Fla., 2,500; deaths, 2; old age 1. Shelbyville, Tenn., 2,000; no deaths. Total population, 18,400; deaths, 5; rate per 1,000, 14.1.

The following reports, for the week ending February 28, are from places in which burial permits are not required:

Abbeville, Miss., 350; no deaths. Alexandria, Va., 13,000; deaths, 5; under 5 years, 1; consumption 2, diphtheria 1, pneumonia 1. Allegheny, Pa., 75,000; deaths, 11; under 5 years, 4; diarrhoea 1, diphtheria 2, lung diseases, 3. Bath, Me., 10,000; deaths, 2; enteric fever 1. Battle Creek, Mich., 7,500; no deaths. Belfast, Me., 5,275; one death, old age. Benton Co., Miss., 11,000; deaths, 2; under 5 years, 1; measles 1, old age 1. Boulder, Col., 3,500; pneumonia 1, under 5 years. Brattleboro, Vt., 6,500; consumption 1. Calais, Me., 7,000; pneumonia 1. Cambridge, N. Y., 1,500; deaths, 5; under 5 years, 1; diphtheria 1, enteric fever 1, scarlet fever 2, pneumonia 1. Carrollton, Miss., 600; no deaths. Cedar Keys, Fla., 1,200; no deaths. Chatam, Conn., 3,000; consumption 1. Chillicothe, Ohio, 12,000; deaths, 7; under 5 years, 2; consumption 2, croup 1. Chillicothe, Mo., 4,750; no deaths. Circleville, Ohio, 6,000; no deaths. Clinton, Mich., 1,200; deaths, 2; under 5 years, 1; diarrhoea 1. Columbus, Ga., 10,000; deaths, 3; consumption 1. Corinth, Miss., 2,300; consumption 1. Crystal Springs, Miss., 1,000; one death, under 5 years. Cumberland, Md., 12,000; deaths, 2; consumption 1, pneumonia 1. Dallas, Tex., 20,000; deaths, 1; under 5 years, 2; pneumonia 1. Davenport, Iowa, 27,000; deaths, 3; consumption 1, old age 2. Decatur, Miss., 1,000; no deaths. Dixon, Cal., 1,200; no deaths. East Haven, Conn., 1,200; no deaths. Fairfield, Conn., 4,000; no deaths. Fayette, Miss., 200; no deaths. Galesburg, Ill., no deaths; population not given. Greenville, Ala., 1,500; no deaths. Helena, Montana, 3,500; consumption 1. Huntington, Tenn., 850; no deaths. Indianapolis, Ind., 900; no deaths. Inka, Miss., 1,000; 1 death. Jefferson, Texas, 3,000; deaths, 2; pneumonia 2. Jeffersonville, Ind., 10,500; deaths, 5; old age 1. Kenosha, Wis., 5,000; deaths, 2; consumption 1. Lansingburgh, N. Y., 7,500; deaths, 3; under 5 years, 1; consumption 1, pneumonia 1, old age 1. Lebanon, Pa., 9,000; deaths, 6; under 5 years, 3; consumption 1, measles 1. Louisiana, Mo., 5,200; no deaths. Lynchburg, Va., 21,000; deaths, 10; under 5 years, 2; consumption 1, pneumonia 1. Madison, Ind., 12,000; deaths, 1; under 5 years 1; consumption 1. Marquette, Mich., 3,000; no deaths. Martinsburg, W. Va., 6,000; consumption 1. Meridian, Miss., 7,000; deaths, 3; pneumonia 1. Milledgeville, Ga., 4,000; no deaths. Montgomery, Ala., 20,000; deaths, 5; under 5 years, 2. Mt. Pleasant, Iowa, 5,000; no deaths. Muscatine, Iowa, 7,587; deaths, 2; consumption 1. Muskegon, Mich., 13,025; deaths, 2, under 5 years; diphtheria 1, pneumonia 1. New London, Conn., 10,000; deaths, 3; under 5 years. Okolona, Miss., 3,000; no deaths.

Oshkosh, Wis., 18,000; deaths, 9; under 5 years, 3; diarrhoea 1, diphtheria 1, lung diseases 2, measles 1, whooping-cough 1. Painesville, Ohio, 5,000; deaths, 3; consumption 1, old age 1. Phenixville, Pa., 6,000; deaths, 2; under 5 years, 1. Pomeroy, Ohio, 5,000; one death. Pontotoc, Miss., 600; puerperal 1. Port Jervis, N. Y., 10,000; old age, 1. Portsmouth, Va., 14,000; deaths, 7; under 5 years, 3; consumption 1, diphtheria 1, lung diseases 3. Pulaski, Tenn., 2,100; pneumonia 1; under 5 years, 1. Rock Island, Ill., no population given; deaths, 4; under 5 years, 1; lung diseases 3, puerperal 1. Rockland, Me., 7,000; deaths, 4; under 5 years, 1; consumption 2, croup 1. San Diego, Cal., 3,000; no deaths. Santa Cruz, Cal., 5,000; no deaths. Senatobia, Miss., 1,500; no deaths. Springfield, Ohio, 20,000; deaths, 7; lung diseases 3, old age 1. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths 5; under 5 years, 3. Tampa, Fla., 1,900; no deaths. Titusville, Pa., 9,000; deaths, 4, under 5 years; croup 2, diphtheria 1, lung disease 1. Tuscaloosa, Ala., 4,000; consumption 1. Victoria, Tex., 3,500; 1 death. Waterbury, Conn., 16,000; deaths, 12; under 5 years, 3; consumption 3, lung diseases 4. Waxahatchie, Tex., 2,000; no deaths. Waverly, Miss., 500; deaths 3. Wesson, Miss., 2,000; no deaths. Westville, Miss., 125; no deaths. Winchester, Va., 5,000; deaths, 2, under 5 years; pneumonia 1. Winona, Minn., 11,766; no deaths. Xenia, Ohio, 7,500; deaths, 4; consumption 2, lung diseases 2. Youngstown, Ohio, 17,000; deaths, 2; under 5 years, 1; consumption 1, measles 1. Total population, 594,614; total deaths, 151; under 5 years, 50; annual death-rate, per 1,000, 13.5.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending February 28 represent a total population of 8,463,790, being 31,159 less than the previous week. The numbers are so nearly equal that a comparison of the total deaths from each of the principal diseases will give at once a close approximation to their relative fatality in the two weeks. An increase of 57 deaths from consumption, and 67 from acute lung diseases, has raised the ratio of deaths from these causes from 5.43 to 6.21 per 1,000 per annum. The zymotic diseases have changed as follows: Increased, diphtheria, from 0.65 to 0.73; measles, from 0.29 to 0.37. Decreased, scarlet fever, from 0.56 to 0.53. Enteric fever, 0.29, malarial fevers, 0.21, and whooping-cough, 0.25, show no change since last week. The general rate of mortality has risen from 18.3 to 19.6, with an increase of 171 in the total number of deaths, which is 3,190 for this week. The present higher rate is evidently largely due to the marked increase in the mortality from pulmonary diseases, while the influence of diphtheria and measles is shown in the rise of the death-rate under 5 years, from 7.90 to 7.40 per 1,000 of total population. It is to be noted that with the decline of scarlet fever measles are not only causing more deaths than before, but are rapidly spreading over the Southern States, which were noted last month as nearly exempt from mortality from this cause. Small-pox is evidently not stamped out yet, and though deaths are reported only from Philadelphia and Baltimore, the disease exists at several other points. At least one death is known to have occurred in the District of Columbia since last report, and too late to appear in the table for this week. Typhus fever and an epidemic form of influenza are officially reported as existing in Philadelphia.

[illegible]

Name of hospital.	Place.	Character of hospital.	Number of beds.	Patients at last report.
Hartford Hospital	Hartford, Conn.	General	120	99
Albany N. Y.	do	"	7	1
Brocklyn, N. Y.	do	"	23	1
Buffalo General Hospital	Buffalo, N. Y.	do	60	78
Charity Hospital	do	"	100	75
Clinton Hospital	do	"	100	75
Hart's Island, N. Y.	Hart's Island, N. Y.	do	477	43
Hart's Island Hospital	do	"	5	273
Saint Francis Hospital	New York City	do	300	273
Saint James Hospital	New York City	do	200	137
Saint Bernard's Hospital	do	"	200	137
Saint Vincent's Hospital	Rochester, N. Y.	do	125	78
Saint Mary's Hospital	do	"	220	254
Yonkers N. Y.	do	"	65	52
Charity Hospital	Newark, N. J.	do	50	25
Saint Michael's Hospital	do	"	45	31
Saint Barnabas Hospital	do	"	13	13
Memorial Hospital	do	"	25	17
University of Pennsylvania Hospital	Philadelphia, Pa.	do	130	92
Saint Mary's Hospital	do	"	75	62
Catholic Hospital	do	"	956	13
West Philadelphia, Pa.	do	"	40	18
Philadelphia Pa.	do	"	40	28
Homopathic Hospital	Pittsburgh, Pa.	do	25	1
Providence Hospital	Washington, D. C.	do	160	103
Aurora, Ga.	do	"	50	23
Frederick's Hospital	Alexandria, Va.	do	20	1
Georgia Infirmary	Savannah, Ga.	do	200	90
Chicommah Hospital	Chicago, Ill.	do	500	286
Charity Hospital	Cleveland, Ohio	do	150	77
Detroit, Mich.	do	"	5	7
Saint Luke's Hospital	St. Louis, Mo.	do	411	203
City Hospital	do	"	250	97
Saint John's Hospital	do	"	15	1
Naval Hospital	Portsmouth, N. H.	do	100	77
do	Chelsea, Mass.	do	100	77
do	Worcester, N. Y.	do	50	13
do	San Francisco, Cal.	do	125	69
do	San Jose, Cal.	do	29	23
do	Pasadena, Fla.	do	29	23
do	New York City	do	82	82
Contagious diseases, New York City	do	Special	150	9
Philadelphla, Pa.	do	"	251	161
Trotter's Hospital	New York City	Children	26	18
Saint Mary's Free Hospital for Children	do	do	65	17
Children's Hospital	Philadelphia, Pa.	Women and children	65	17
Children's Hospital for Women and Children	Washington, D. C.	Children	72	28
State Hospital for Women	Chicago, Ill.	Women	16	16
Insane Hospital	Augusta, Me.	Insane	200	200
New Hampshire Asylum for Insane	Boston, Mass.	do	200	168
State Lunatic Hospital	Worcester, Mass.	do	600	499
Retreat for Insane	Barford, Conn.	do	150	45
Asylum	Tracy, N. Y.	do	200	139

Name of hospital.	Place.	Character of hospital.	Number of beds.	Patients at last report.	Com- muni- cable.	Croup.	Diph- theria.	Fever, enteric.	Fever, malaria.	Fever, scarlet.	Long diphtheria, acute.	Measles.	Puer- peral dis- eases.	Small pox.	Totals.
Willard Asylum	Willard, N. Y.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
State Hospital for Insane	Brooklyn, Pa.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
DuPont Hospital	DuPont, Pa.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Philadelphia Hospital for Insane	Philadelphia, Pa.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
State Hospital for Insane	Richmond, Va.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Willard Asylum	Willard, N. Y.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Alabama Insane Hospital	Fusculow, Ala.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Longview Asylum	Longview, Ohio	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Columbus Asylum	Columbus, Ohio	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Indiana Hospital for Insane	Indianapolis, Ind.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Minnesota Hospital for Insane	St. Paul, Minn.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
State Insane Hospital	St. Louis, Mo.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Insane Asylum of California	Stockton, Cal.	Insane	150	150	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.

EXPERIMENTS WITH DISINFECTANTS—Continued.

[By GEORGE M. STERNBERG, Surgeon U. S. Army.]

Experiment No. 32, January 7.—Two children vaccinated in left arm from points exposed for six hours to atmosphere containing ten volumes of chlorine in one hundred, and in right arm from points (same lot) not exposed to disinfectant. *Result:* Vaccination in each case successful in right and unsuccessful in left arm.

Experiment No. 33, January 7.—Two children vaccinated from points exposed for six hours to atmosphere containing two and two-tenths volumes of chlorine in one hundred, and in right arm with points not exposed to disinfectant. *Result:* Successful in right arm and unsuccessful in left in both cases.

Experiment No. 34, January 15.—Five children vaccinated from points exposed for six hours to atmosphere containing one per cent. of chlorine, and with points not exposed to disinfectant. *Result:* In four cases the vaccination was unsuccessful with disinfected points, and in one it was successful; in three cases the points not disinfected gave a successful and in two a negative result.

Experiment No. 35, January 16.—Five children vaccinated from points exposed for six hours to atmosphere (dry) containing one per cent. of sulphurous acid gas (collected over mercury), and from five points not exposed to disinfectant. *Result:* Vaccination unsuccessful in each case with disinfected points, and successful with non-disinfected points.

Experiment No. 36, January 22.—Three children vaccinated from points exposed for six hours to atmosphere containing one per cent. of nitrous acid (generated by pouring nitric acid on copper filings, and collected over mercury), and from three points not exposed to disinfectant. *Result:* Vaccination unsuccessful in each case with disinfected points, and successful with non-disinfected points.

Experiment No. 37, January 24.—Four children vaccinated from points exposed for six hours to atmosphere containing one-half per cent. of chlorine, and from points not exposed to disinfectant. *Result:* Successful in each case with non-disinfected points, and unsuccessful with disinfected points.

Remarks.—In my chlorine experiments the gas has been produced by the action of hydrochloric acid on peroxide of manganese, and collected over warm water. In all of my experiments with this gas, with a single exception in which one per cent. was used (Exp. 34), the potency of vaccine virus has been destroyed by six hours' exposure. This exception may have been due to an unusual thickness of the coating of dried lymph on the ivory point, and in view of the failure of points exposed to half this quantity (Exp. No. 37) it might perhaps be treated as an exception, especially if a considerable number of future experiments gave a uniformly negative result after exposure to this and smaller proportions of the disinfectant; but, for the present, it will be safer to assume that the limit of safety has been reached if not passed. In Cameron's experiments with chlorine four ivory points, charged with vaccine lymph, were exposed for 24 hours in a small chamber, made of wood and glass, having a capacity of 16½ cubic feet of space. Chlorine was produced by decomposing bleaching-powder (chloride of lime) by acid. Two cases were successfully revaccinated with these points; two failed. In a second experiment six points were exposed and two ounces chloride of lime used. Vaccinations with these points were unsuccessful.

As my experiments now stand, the statement may be made that exposure for six hours or more to an atmosphere containing at least one per cent. of sulphurous acid gas, chlorine, or nitrous acid gas, is a reliable method of disinfection.

The following experiment has since been made for the purpose of exposing the above conclusion to an additional test, viz.: The destruction of the vitality of bacteria, as proved by their failure to multiply in a suitable culture fluid.

Experiment No. 38, March 1.—A number of narrow slips of filtering paper were saturated with urine, which had been standing in the laboratory for several days and was filled with bacteria. Some of these slips were then suspended by a thread in each of three half-gallon bottles.

Into bottle No. 1 was introduced a measured quantity of chlorine; in bottle No. 2 of sulphurous acid gas; and in No. 3 of nitrous acid gas; in each case equal to one per cent. of the contained air. After exposure for 24 hours little pieces cut from these pieces of filtering paper were used to inoculate boiled urine contained in germ-proof tubes prepared as follows: A number of pieces of glass tubing, 4 inch in diameter and 6 inches long, were closed at one end and bent in the middle to a U shape. These tubes were washed in nitric acid, then in water, and finally heated to redness, to make sure of the destruction of any germs contained in them. Into the closed leg of the U was then introduced a small quantity of boiled urine, and after this had cooled they were treated as follows: Into 1, 2, and 3 was introduced a fragment of filtering paper from bottle No. 1 (chlorine); into 4, 5, and 6, from bottle No. 2 (sulphurous acid); into 7, 8, and 9, from bottle No. 3 (nitrous acid); into 10 and 11, pieces of filtering paper dipped in urine containing bacteria and not exposed to a disinfectant; and 12 and 13 were left with the boiled urine only. Each tube was then closed with a plug of cotton, and they were placed in a test-tube rack with the arms of the U dependent—thus N. They were observed daily, and all remained clear and free from any appearance of the presence of bacteria, except Nos. 10 and 11, into which the filtering paper not disinfected had been introduced. These tubes became clouded on the second day, and on microscopic examination, at the end of a week, were found to contain an abundance of bacteria.

MORTALITY IN FOREIGN CITIES, COMPILED FROM THE WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths. Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
					Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Vancouver's Island.	Victoria	5,000	Feb. 21	1879-80.	1	10.4											40.4
Canada	Kingston	16,000	Feb. 29	3	9.8												16.60
Do.	Montreal	135,000	Feb. 14	77	29.8												23.89
Do.	St. John's	135,000	Feb. 21	65	36.7				9		1				12		63.7
Bermuda	Hamilton	14,867	Feb. 29	2	7.0												62.5
Do.	do.	14,867	Mar. 2	4	14.1												62.5
Cuba	Havana	135,457	Feb. 21	120	32.0			2		4		3					75
Do.	do.	64,710	Jan. 11	34	27.4												76.6
Do.	do.	64,710	Jan. 18	34	27.4												77.6
Do.	do.	64,710	Jan. 25	36	29.0												77.6
Mexico	Merida and Progreso.	41,399	Jan. 31	30	37.0			1				2					1
Do.	do.	41,399	Feb. 7	35	43.9							1					1
Do.	do.	41,399	Feb. 14	18	22.6												1
Do.	do.	41,399	Feb. 21	26	32.6												1
Guatemala	Azabul	800	Sept. 10	2	130.4												60.8
Pern	Lignipe	5,000	Jan. 29	19	197.4				9	5							57
St. Helena	Jamesstown	6,240	Jan. 10	2	16.7												58
Do.	do.	6,240	Jan. 17	2	16.7												58
Do.	do.	6,240	Jan. 31	0													58
Falkland Island.	Port Stanley	1,336	Dec. 25														57
Do.	do.	1,336	Dec. 31														58
Do.	do.	1,336	Jan. 7	6	18.8												56
Tenerife	Santa Cruz	182,082	Feb. 14	113	32.4												56
Ireland	Dublin	314,060	Feb. 14	272	44.9												56
Do.	do.	10,000	Feb. 21	10	39.2												56
Scotland	Dundee	135,000	Feb. 14	81	25.3												56
Do.	Glasgow	578,136	Feb. 14	258	23.2												56
Do.	Leith	58,000	Feb. 21	25	22.5												56
England	London	3,620,868	Feb. 14	2,495	33.5												56
Do.	Newcastle-on-Tyne	146,948	Feb. 14	82	29.1												56
Do.	Liverpool	544,056	Feb. 21	253	24.5												56
Do.	Sheffield	297,138	Feb. 21	126	21.6												56
France	Paris	104,902	Jan. 31	73	36.8												56
Do.	do.	104,902	Feb. 21	91	45.3												56
Do.	do.	1,088,886	Feb. 19	1,449	37.9												56
Do.	do.	92,068	Feb. 14	74	41.9												56
Do.	Lyons	342,815	Feb. 14	250	26.0												56
Switzerland	Zurich	22,163	Feb. 14	13	30.7												56
Holland	Amsterdam	308,962	Feb. 14	268	45.3												56
Do.	Rotterdam	147,000	Feb. 21	65	39.7												56
Germany	Berlin	1,062,500	Feb. 21	492	24.2												56
Do.	Frankfort	126,000	Feb. 14	56	23.2												56
Do.	Brusswick	74,128	Feb. 14	41	28.9												56
Do.	Hamburg	95,000	Feb. 14	34	19.1												56
Do.	Breslau	276,000	Feb. 14	153	29.2												56
Do.	Munheim	50,500	Feb. 21	29	31.5												56
Belgium	Brussels	390,482	Feb. 8	195	25.5												56
Saxony	Dresden	218,000	Feb. 7	94	26.7												56
Do.	do.	218,000	Feb. 14	93	26.4												56
Do.	Leipsic	160,000	Feb. 14	80	27.6												56
Bavaria	Nuremberg	90,000	Feb. 7	56	32.4												56
Denmark	Copenhagen	225,000	Feb. 10	143	32.9												56
Italy	Leghorn	97,850	Feb. 21	73	38.4												56
Do.	Naples	458,614	Dec. 27	290	32.9												56
Austria	Trieste	128,233	Jan. 31	127	51.8												56
Do.	Vienna	727,287	Feb. 14	414	29.3												56
Russian Poland	Warsaw	336,703	Feb. 14	193	30.0												56
Sweden	Stockholm	169,429	Feb. 7	82	25.3												56
Norway	Christiania	113,000	Feb. 7	32	14.8												56
Cape Colony	Cape Town	35,000	Jan. 26	29	45.2												56

HEALTH OF NASSAU, WEST INDIES.

The board of health of Nassau, island of New Providence, West Indies, sends the following report of the health of that place:

REPORT OF THE BOARD OF HEALTH.

The board of health having been appealed to at a meeting held this day for a statement as to the sanitary condition of the city of Nassau and island of New Providence, beg to state, that the reports which have been circulated elsewhere as to the prevalence of a severe infantile fever having originated in a sporadic form, commencing in September last and extending over a few months, confined to young native children, and causing a mortality of only twenty in this island out of a population of over 12,000; but this no longer exists, and the health of the place is excellent at present, with a total absence of any epidemic, contagious or infectious disease.

The salubrity of the island is still further confirmed by the continued residence in Nassau of several hundred American citizens, many of whom, with their families, have remained during the whole season.

Given under my hand and seal this 24th day of February, 1880,
[SEAL.]

FREDK. DUNCOMBE, M.D.,

Medical Inspector, and Chairman of Board of Health.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NATIONAL BOARD OF HEALTH ROOMS, 1410 G ST., N. W.

National Board of Health BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, MARCH 20, 1880.

[No. 38.]

NASHVILLE MEMORIAL TO CONGRESS.

The board of health of Nashville, Tenn., have memorialized Congress as follows:

OFFICE OF THE BOARD OF HEALTH,
Nashville, Tenn., March 1, 1880.

At a recent meeting of the board of health of this city, the undersigned were directed to memorialize our Senators and Representatives in Congress, to the end that they may use their influence and their votes to defeat the passage of the first section of Senate bill 1152, entitled "An act to increase the efficiency of the National Board of Health," and which is now pending before Congress.

We therefore would respectfully inform you that it is the sense of our board that the contemplated amendment is highly inexpedient, and it is calculated to inflict serious detriment to the commercial interest of a city without compensating good. It would place the decision of a special case of disease in the hands of those who are at least foreign to the local welfare and prosperity—ignorant of the antecedents and surroundings. Furthermore, the enactment of such a law would give occasion to a conflict of opinion and authority in matters strictly medical, thereby retarding the progress of sanitary work rather than fostering and encouraging it.

Trusting that your concern for our local welfare will induce you to give this memorial your early and attentive consideration,

We have the honor to be, your obedient servants,
J. R. BUTST, M. D., President.

R. CHEATHAM, M. D., Secretary.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

BURLINGTON, VT.—Dr. George M. Ockford, under date of March 10, gives the following report of the present sanitary condition of this city:

During the month ending March 10 the only change in the health of Burlington is the occurrence of several cases of scarlet fever. They have all been mild cases. The disease made its appearance in the worst drained portion of the city. This, the northern portion, is practically undrained, is inhabited largely by French Canadians, and many of them are extremely dirty in their habitations, and outside of their houses piles of garbage and filth are constantly accumulating. This section of the city is infected with diphtheria perennially, and during the past month several cases have occurred, one or two proving fatal. The health officer frequently causes a renovation, but at the best it is only temporary. Other nuisances exist in the city, and one especially bad spot is near the middle of the city. In the center of a square is a soap factory, which establishment uses foul grease from dead horses and other animals, and the odor from the rendering process is so offensive as to nauseate many in the vicinity. The factory is drained into a ravine which has been filled with shavings and earth. The drain passes through an old privy, which in former years was used constantly by forty or fifty individuals. This drain is near the surface, and is frequently overflowed, when the remains of human excreta, refuse from rancid fat and other impurities, are thrown upon the surface. Altogether it is a foul spot, and the soaking of this liquid refuse into the shavings used for filling cannot be anything but an additional nuisance to the decomposition of the wood itself. A sanitary survey of the city would show other foul spots, which the apathy or indifference of the city authorities permits to exist.

FOREST CITY, ARK.—Dr. A. L. Goysacher forwards a detailed report of the yellow fever epidemic at this place, from which it appears that from October 2 to November 25, 1879, twenty-three persons were affected with disease presenting more or less completely the symptoms of yellow fever. Of these, 15 died, black vomit occurring in nearly all the fatal cases, and the temperature rising to 104° in most of them. Where recovery took place, convalescence was very tedious in all but two cases. The first case was that of Mrs. K., who died October 8, after an illness of 7 days, with black vomit. To this case, and to other fatal cases directly traced to infection from it, all the cases reported are referred.

FORT MCINTOSH, TEX., March 1.—Dr. L. H. King, United States Army, reports that two cases of small-pox appeared on the 15th, and two more on the 16th of February, among the soldiers. The cases were of mild type, and as the entire command is now protected by vaccination no epidemic is to be feared.

LANCASTER, MO., March 5.—Dr. W. F. Mitchell writes that this, the county town of Schuyler County, is located upon high and undulating ground, affording good natural drainage and other favorable sanitary conditions. The water supply is especially good, and contributes largely to the excellent health generally enjoyed by the people. No contagious or epidemic disease has existed there for a long time, and during the past year there were but 3 deaths, in a population of 700. One death was from consumption, one followed abortion, and one (infant) was due to congestion of the brain.

LANSING, MICH.—Under date of March 9, Dr. H. B. Baker states that one case of small-pox is reported at Ypsilanti, by Dr. Batwell, the health officer of that city. Dr. Baker adds that it is not unusual for single cases of small-pox to occur there at long intervals.

LITTLE FALLS, N. Y.—A report from this town, of 5,892 inhabitants, gives a total of 9 deaths from January 1 to 23, being at an annual rate of 24.1 per 1,000. Four deaths were under 5 years of age. The causes stated are consumption 1, diarrhoea 1, lung diseases 4, cancer 1, epilepsy 1, and peritonitis 1. The colored population is only 46, and all the deaths were of whites.

MEMPHIS, TENN., March 5.—Dr. F. W. Reilly refers to rumors and reports which have been lately in circulation as to the reappearance of yellow fever in Memphis. These assumed definite shape on the 4th, in a telegraphic inquiry from Saint Louis, which was referred to Dr. Reilly for investigation. A minute history of each of the "suspicions" cases was obtained, and in no instance was there any ground for associating the disease or death in the remotest degree with yellow-fever poison. Dr. Reilly gives the clinical notes of each case, which fully confirm his statement.

WOOSTER, OHIO.—Dr. Joseph E. Burrett, under date of March 3, states that this town has about 7,500 inhabitants, and that burial permits are required, though there is no local board of health. The town is in Wayne County, on one of the summits between Lake Erie and the Ohio River, and elevated about 235 feet above the lake. The water supply is of good spring water, brought in iron pipes from a distance of a mile, and on an elevation of 150 feet above the town. There were 80 deaths during the year 1878, and 140 during the year 1879. The diseases are not specified.

ABSTRACTS FROM CONSULAR REPORTS.

BUCHAREST, ROMANIA.—United States Consul W. Fane, in his weekly report of February 14, notes that a malignant form of small-pox is prevailing in that city. Most of the cases have proved fatal on the third day, and 61 deaths from that disease are recorded for the week. Population, 211,389; deaths for the week from all causes, 200; annual death-rate per 1,000, 43.4; mean temperature, 48.3.

MONTREAL, CANADA.—United States Consul J. Q. Smith forwards the report of Dr. A. B. Larocque for the month of December, 1879. There were 212 deaths and 16 still-births in a population of 135,000; the annual death-rate was 17 per 1,000. The chief causes of death were, consumption, 30; small-pox, 26; diphtheria, 16; scarlet fever, 6; croup, 1; typhoid fever, 5; lung disease, 12. The deaths from small-pox were 31 less than in November, 1879, and 60 less than in December, 1878. Of the 26 who died, 20 were not vaccinated, 1 were said to have been, and of 2 there is no record.

VERA CRUZ, MEXICO.—United States Consul S. J. Knowbridge, under date of February 27, says that small-pox has recently excited much alarm in two towns about sixty miles up a navigable river which empties into the Gulf about 31 miles south of Vera Cruz, and in regular communication with that city. The poorer classes have a religious prejudice against vaccination, but the fear of small-pox serves as a protection to some extent, as it induces the people to enforce very strict measures of isolation and quarantine.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MARCH 6, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Comp.	Diphtheria.	Enteric.	FEVER.					Long diseases, acute.	Measles.	Puerperal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents and injuries.
									Malaria.	Scarlet.	Yellow.									
Cal.....San Francisco.....	365,000	25	91	15.6	11	.....	1	.....	1	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	1
.....Sacramento.....	25,000	.....	.....	4.1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
.....Vallejo.....	5,000	1	.....	20.8	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....Los Angeles.....	14,000	1	.....	11.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	8,420,842	1,214	3,188	19.7	512	68	56	137	45	21	86	495	36	31	2	34	105	74	.....	.....

Boston has 370,000 white, 5,000 colored; deaths, 153 white, 3 colored. Rate per 1,000, white 21.5, colored 31.3. Lawrence has 29,800 white, 200 colored; deaths, 21 white. Rate in table. Providence has 98,200 white, 3,800 colored; deaths, 58 white, 4 colored. Rate per 1,000, white 20.1, colored 34.9. Sing Sing has 7,250 white, 250 colored; deaths, 9 white. Rate in table. Reading has 40,000 white, 350 colored; deaths, 17 white. Rate in table. Wilmington, Del., has 39,000 white, 5,000 colored; deaths, 16 white, 5 colored. Rate per 1,000, white 21.4, colored 32.1. Baltimore has 245,715 white, 56,285 colored; deaths, 99 white, 11 colored. Rate per 1,000, white 14.9, colored 38.0. District of Columbia has 110,000 white, 36,000 colored; deaths, 42 white, 15 colored. Rate per 1,000, white 19.6, colored 42.2. Norfolk has 15,500 white, 9,500 colored; deaths, 3 white, 7 colored. Rate per 1,000, white 16.1, colored 58.4. Richmond has 40,000 white, 34,000 colored; deaths, 10 white, 20 colored. Rate per 1,000, white 11.3, colored 29.7. Wilmington N. C. has 6,714 white, 10,286 colored; deaths, 3 white, 7 colored. Rate per 1,000, white 23.3, colored 35.5. Charleston has 25,000 white, 32,000 colored; deaths, 3 white, 21 colored. Rate per 1,000, white 6.2, colored 34.2. Savannah has 17,193 white, 15,163 colored; deaths, 3 white, 1 colored. Rate per 1,000, white 8.9, colored 37.8. Augusta has 10,156 white, 10,824 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 6.1, colored 4.8. Atlanta has 25,375 white, 16,175 colored; deaths, 2 white, 2 colored. Rate per 1,000, white 6.1, colored 6.4. Jacksonville has 6,000 white, 4,000 colored; deaths, 2 white. Rate in table. Mobile has 28,000 white, 12,000 colored; deaths, 6 white, 8 colored. Rate per 1,000, white 11.1, colored 31.7. New Orleans has 155,000 white, 55,000 colored; deaths, 51 white, 36 colored. Rate per 1,000, white 17.1, colored 34.1. Shreveport has 4,500 white, 5,000 colored; deaths, 1 white, 1 colored. Rate per 1,000, white 11.6, colored 10.4. Memphis has 16,765 white, 13,551 colored; deaths, 12 white, 30 colored. Rate per 1,000, white 10.6, colored 37.4. Nashville has 26,000 white, 11,000 colored; deaths, 7 white, 7 colored. Rate per 1,000, white 10.0, colored 33.2. Chattanooga has 7,680 white, 5,020 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 12.2, colored 41.5. Clarksville has 3,000 white, 3,000 colored; deaths, 1 white. Rate in table. Louisville has 151,125 white, 21,875 colored; deaths, 30 white, 12 colored. Rate per 1,000, white 10.2, colored 28.6. Wheeling has 28,000 white, 900 colored; deaths, 14 white. Rate in table. Burlington, Iowa, has 25,400 white, 600 colored; deaths, 5 white. Rate in table. Keokuk has 15,000 white, 400 colored; deaths, 2 white. Rate in table. Lawrence, Kans., has 6,000 white, 1,700 colored; deaths, 2 white. Rate in table. Total white population, 1,889,831; deaths, 537; annual rate per 1,000 17.2. Total colored population, 59,682; deaths, 245; rate per 1,000, 32.8.

The following reports, for the week ending March 6, are from places requiring burial permits, and having less than 5,000 population:

Edgartown, Mass., 1,400; no deaths. Ferdinand, Fla., 3,000; consumption 2. Franklin, Tenn., 1,621; 1 death, under 5 years. Morgan City, La., 2,500; no deaths. Saint Augustine, Fla., 2,500; no deaths. Shelbyville, Tenn., 2,000; deaths, 1; under 5 years, 2; consumption 1, pneumonia 1.

Total population, 15,021; deaths, 1; under 5 years, 3; annual rate per thousand, 28.

The following reports, for the week ending March 6, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 3; consumption 1, pneumonia 1. Allegheny, Pa., 75,000; deaths, 2; under 5 years, 13; consumption 4, diphtheria 2, lung disease 6, pneumonia 1. Bath, Me., 10,000; deaths, 3. Battle Creek, Mich., 7,500; deaths, 3; under 5 years, 2; diphtheria 1, whooping-cough 1. Benton County, Miss., 11,000; no deaths. Boulder, Col., 3,700; 1 death, under 5 years. Bradford, Vt., 6,500; deaths, 2. Cambridge, N. Y., 1,500; pneumonia 1. Carrollton, Miss., 600; no deaths. Cedar Key, Fla., 1,500; no deaths. Chatham, Conn., 3,000; 1 death. Chicago, Ill., 5,000; consumption 1. Hillsdale, Mo., 1,500; no deaths. Clinton, Mich., 1,900; no deaths. Columbus, Ga., 10,000; 1 death. Corinth, Miss., 2,300; consumption 1. Crystal Springs, Miss., 1,000; no deaths. Cumberland, Md., 12,000; deaths, 6; consumption 2, group 1, pneumonia 1. Dallas, Tex., 20,000; deaths, 5; under 5 years, 1; consumption 1, lung disease 2. Danbury, Conn., 9,500; deaths, 2; under 5 years, 1; consumption 1. Davenport, Iowa, 27,000; deaths, 7; under 5 years, 3; consumption 1, group 2, diphtheria 1. Decatur, Miss., 1,000; no deaths. East Haven, Conn., 1,200; no deaths. Fairfield, Conn., 1,000; deaths, 2; lung disease 1, old age 1. Flint, Mich., 10,000; consumption 1. Greenville, Ala., 1,700; pneumonia 1, under 5 years, 1. Helena, Mont., 3,000; 1 death. Huntington, Tenn., 850; no deaths. Indianola, Tex., 500; no deaths. Juba, Miss., 1,000; no deaths. Jefferson, Tex., 3,000; deaths, 2; consumption 1. Kenosha, Wis., 5,000; diphtheria 1, under 5 years, 1. Lanesborough, N. Y., 7,500; deaths, 2; lung disease 1. Lebanon, Pa., 9,000; consumption 1. Lynchburg, Va., 21,000; deaths, 2; pneumonia 1. Madison, Ind., 12,000; consumption 1. Marquette, Mich., 1,000; no deaths. Martinsburg, W. Va., 6,000; deaths, 2. Meridian, Miss., 5,000; deaths, 3. Millidgeville, Ga., 1,000; 1 death. Monmouth, Ill., 6,000; deaths, 3; pneumonia 1, old age 1. Mount Pleasant, Iowa, 6,000; old age 1. Muscatine, Iowa, 7,500; consumption 1. Muskegon, Mich., 15,025; deaths, 3; under 5 years, 2; diphtheria 2. Natchez, Miss., 10,000; deaths, 3; under 5 years, 2; consumption 1. Nebraska City, 5,000; pneumonia 1, under 5 years, 1. New Castle, Pa., 10,000; deaths, 2; old age 1. Newport, Ky., 25,000;

deaths, 12; under 5 years, 3; consumption 3, malarial fever 1, scarlet fever 2, pneumonia 1. Oklaoma, Miss., 3,000; no deaths. Oskosh, Wis., 1,800; deaths, 7; under 5 years, 2; consumption 1, pneumonia 3, pneumonia 1. Painesville, Ohio, 5,000; deaths, 2; consumption 1. Phenixville, Pa., 6,000; no deaths. Ponca, Ohio, 2,000; deaths, 6; under 5 years, 3; enteric fever 1, scarlet fever 1, measles 1. Pontotoc, Miss., 600; no deaths. Port Jervis, N. Y., 10,000; deaths, 2; diphtheria 1. Portsmouth, Va., 11,000; deaths, 3; diphtheria 2. Pulaski, Tenn., 2,100; no deaths. Rock Island, Ill., 1 death; no population given. Rockland, Me., 7,000; deaths, 3; under 5 years, 1; consumption 1, diphtheria 1. San Diego, Cal., 3,000; deaths, 2. Santa Cruz, Cal., 5,000; 1 death (legal execution). Senatobia, Miss., 1,500; no deaths. Springfield, Ohio, 25,000; deaths, 1; under 5 years, 1; diphtheria 2. Starkville, Miss., 1,163; consumption 1. Steubenville, Ohio, 13,500; deaths, 3; under 5 years, 2. Tampa, Fla., 1,200; 1 death. Titusville, Pa., 9,000; 1 death. Tuscaloosa, Ala., 1,000; old age 1. Verona, Miss., 1,000; no deaths. Victoria, Tex., 3,500; 1 death, under 5 years. Waterbury, Conn., 16,000; 1 death. Watertown, N. Y., consumption 1; no population given. Waxahatchie, Texas, 2,000; bronchitis 1. Waynesboro, Miss., 500; no deaths. Winchester, Va., 6,500; deaths, 1; under 5 years, 2; diphtheria 1, lung disease 2, whooping-cough 1. Winona, Minn., 10,000; no deaths. Xenia, Ohio, 7,500; deaths, 2; consumption 1. Youngstown, Ohio, 17,000; deaths, 5; under 5 years, 1; consumption 1, lung diseases 2, measles 3.

Total population, 203,625; deaths, 118; under 5 years, 46; annual death-rate per thousand, 13.

WEEKLY SUMMARY OF MORTALITY.

The population represented in the reports for the week ending March 6 is 8,420,842, being 12,218 less than that for the preceding week. The number of deaths (3,192) is two more than last week, and the general death rate has risen from 19.6 to a little over 19.7 per 1,000. The actual number of deaths from each of the principal diseases remain almost exactly the same as last week, which, with the reduced population, shows a slight, but general, increase in the ratio of mortality from all diseases noted, excepting whooping-cough. This disease has caused 34 deaths this week as compared with 45 for last week, and the rate has declined from 0.25 to 0.21 per 1,000 of population per annum. The mortality among children, being the most sensitive index to fluctuations, shows an increase from 7.10 to 7.52 per 1,000 of population, and from 37.6 to 38.4 per cent. of all deaths. The deaths from small-pox are not fully reported from some places where the disease exists; the reason being in most cases the removal of cases beyond the city limits, and the absence of reports from the hospitals to which they are transferred.

Index of hospital.

Place.	Character of hospital.	Number of beds.			Patients at last report.			Comp.			Diarr.			Fever, enteric.			Fever, malarial.			Fever, scarlet.			Long, distal, acute.			Measles.			Puer. perils cases.			Small-pox.			Totals.		
		Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.	Admitted.	Discharged.	Died.			
Harford Hospital	do	120	95	1	9																																
Albany, N. Y.	do	125	21	2																																	
St. John's Hospital	do	125	21	2																																	
Brooklyn, N. Y.	do	125	21	2																																	
General Hospital	do	125	21	2																																	
Went's Island, N. Y.	do	125	21	2																																	
General Hospital	do	125	21	2																																	
German Hospital	do	125	21	2																																	
New York City	do	125	21	2																																	
Hart's Island, N. Y.	do	125	21	2																																	
St. John's Hospital	do	125	21	2																																	
St. Francis Hospital	do	125	21	2																																	
St. Barnabas Hospital	do	125	21	2																																	
St. John's Hospital	do	125	21	2																																	
St. John's Hospital	do	125	21	2																																	
St. John's Hospital	do	125	21	2																																	
St. John's Hospital	do	125	21	2																																	
St. John's Hospital	do	125	21	2																																	

Name of hospital.	Place.	Character of hospital.	Number of beds.	Patients at last report.	Com- muni- cable.	Croup.	Phar- yngeal diseases.	Diph- theria.	Fever, enteric.	Fever, malarial.	Fever, scarlet.	Lung diseases, active.	Measles.	Puer- peral dis- eases.	Small pox.	Totals.
State Lunatic Hospital	Worcester, Mass.	Insane	600	497												497
Refugee Hospital	Hartford, Conn.	Insane	150	144												144
New York City Lunatic Asylum	Blackwell's Island, N. Y.	Insane	40	337												337
Hudson River State Hospital	Poughkeepsie, N. Y.	Insane	241	241												241
Warren's Asylum	Wrentham, N. Y.	Insane	206	201												201
State Hospital for Insane	Barnstable, Va.	Insane	700	443												443
Dixmont Hospital	Dixmont, Pa.	Insane	610	552												552
Philadelphia Hospital for Insane	Philadelphia, Pa.	Insane	250	374												374
North Carolina Insane Asylum	Wilmington, N. C.	Insane	333	323												323
North Carolina Insane Asylum	Raleigh, N. C.	Insane	277	277												277
North Carolina Insane Asylum	Jackson, Miss.	Insane	408	406												406
West Virginia Hospital for Insane	Weston, W. Va.	Insane	663	689												689
Longview Asylum	Cardage, Ohio	Insane	900	870												870
Columbus Asylum for Insane	Columbus, Ohio	Insane	1100	874												874
Indiana Hospital for Insane	Indianapolis, Ind.	Insane	322	321												321
Minnesota Hospital for Insane	Saint Peter, Minn.	Insane	116	117												117
Insane Asylum	Saint Louis, Mo.	Insane	322	321												321
Insane Asylum of California	Stockton, Cal.	Insane	116	117												117

SANITARY LEGISLATION IN CONNECTICUT.

The following bill has been reported from the joint standing committee on cities and boroughs of the Connecticut Senate, with a recommendation that it do pass:

[An act relating to public health and safety.]

GENERAL ASSEMBLY, JANUARY SESSION, A. D. 1880.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

SECTION 1. Whenever any city in this State shall find it necessary for sanitary purposes to control the streams of water passing through said city, or to use the same to conduct and carry off the drainage and sewage of said city, and for that purpose finds it necessary to prevent the damming of said streams, or to remove a dam or dams already constructed, the court of common council of said city may take for the use of said city said streams and dams, or either or any of them, and may agree with the owner or owners of the land adjoining and underlying said streams, and the owner or owners of said dams, as to the amount of compensation to be paid to said owner or owners for the same. In case of disagreement between said court of common council and any owner or owners as to such compensation, or as to the amount of damages which ought to be awarded to any person claiming to be injured in his estate by the doings of said court of common council, or in case any such owner shall be an infant, or married woman, or insane, or absent from the State, or unknown, or the owner of a contingent or uncertain interest, said city may make its application to the superior court for the county in which such city is located, setting forth the proposed taking, and said superior court shall cause such notice of the pendency of such application as it shall deem just and reasonable to be given to the parties in interest, and thereupon shall appoint a committee of three disinterested and judicious persons to examine such property as is to be taken or damaged by the doings of said city; and they having been sworn, and having given such notice of a hearing in the matter as shall be just and reasonable, shall proceed to hear all such parties in interest as shall appear before them, and shall estimate the amount of damage which said owners shall receive, and report the same in writing to said superior court. Said court may confirm, correct, or set aside such report, and in the latter case may direct said committee to proceed to a further hearing, or then discharge said committee and appoint a new committee for the purpose aforesaid, and said court may direct when and in what manner said damages shall be paid, and said report having been finally accepted, and such damages having been paid to the parties entitled to them, or deposited with the clerk of said superior court subject to their order, said city may proceed with the construction of its work, and control, use, and regulate said streams or dams, or remove said dam or dams, without any further liability on the part of said city.

SEC. 2. This act shall take effect from its passage.

MISCELLANEOUS.

HAVANA, CUBA, February 13 report 9 deaths in this city from yellow fever during the month of February, and 5 deaths for the week ending March 12. All the recent cases have occurred in the city; none among the shipping.

NEW LONDON, CONN.—Among the places in which small-pox is known to have existed for some time, though not officially reported, is the city of New London, where the disease has prevailed to some extent since December, 1879. The number of deaths and the probable source of the contagion are not yet known, but it appears that few if any precautions have been taken to prevent the spread of the disease by isolation of those affected or recently recovered. The latter are reported to mingle freely with the citizens on leaving their sick rooms after an attack of small-pox.

CORRECTION.—In the note on mortality in New York City for 1879, page 274, read four deaths from *typhus* fever instead of *typhoid*.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The total numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	1880.	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
							Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Vancouver's Island.	Victoria	5,000	Feb. 28	1	10.4														38
Canada	St. John's	5,000	Mar. 6	2	20.0														30.3
Do	Montreal	135,000	Feb. 26	61	23.6							6							26.6
Cuba	Havana	195,437	Feb. 28	128	34.1							6		3					74
Hayti	Aux Cayes	8,000	Feb. 14	1	6.5														15
Do	do	8,000	Feb. 21	3	19.6														73
Do	Port au Prince	30,000	Feb. 18	18	34.3														80
Do	do	30,000	Feb. 25	31	53.9														78
GaudeLoup	Point a Pitre	22,919	Feb. 7	9	20.5														26.3
Mexico	Matamoros	16,000	Feb. 21	8	26.1														62.5
Azores	Fayal	7,630	Jan. 21	25	15.7														59
Do	do	7,630	Jan. 31	3	20.5														59
Do	do	7,630	Feb. 7	4	27.3														61
Teneriffe	Santa Cruz	16,610	Feb. 14	9	28.3						1		1				2		65.1
Ireland	Belfast	212,000	Feb. 21	132	32.4						8		2				56		42.1
Do	Dublin	314,666	Feb. 21	228	37.7														27
Scotland	Dundee	155,600	Feb. 21	90	30.3						1	6				2		131	44
Do	Glasgow	589,598	Feb. 22	271	23.9														26
Do	Leith	88,479	Feb. 28	26	19.2														4
England	London	3,664,149	Feb. 21	2,016	28.7								13		17				43.3
Do	Newcastle-on-Tyne	146,948	Feb. 21	60	21.3														9
Do	Liverpool	344,636	Feb. 28	282	27.0											10			29
Do	Bristol and Clifton	210,000	Feb. 21	134	32.3														32
France	Rouen	104,902	Feb. 28	118	59.7														45.6
Do	Lyon	342,815	Feb. 21	255	36.0							16		4					16
Switzerland	Zurich	22,103	Feb. 21	14	33.3														2
Holland	Amsterdam	308,952	Feb. 21	255	43.0								2	1	2				254
Do	Rotterdam	147,000	Feb. 28	101	35.9														36
Germany	Brunswick	74,000	Feb. 28	46	32.3														44
Do	Stuttgart	169,825	Feb. 14	54	26.6														2
Do	Breslau	176,000	Feb. 14	157	46.5									3	3	4			38.8
Do	Mannheim	48,000	Feb. 28	25	27.2														29.9
Do	Barmen	93,000	Feb. 21	40	22.4														46.6
Do	Berlin	1,087,500	Feb. 14	595	28.5														6
Saxony	Chemnitz	85,000	Feb. 14	40	23.4														33
Do	Leipzig	156,836	Feb. 21	62	21.4										1				34
Bavaria	Nuremberg	90,000	Feb. 14	53	30.7														24.3
Belgium	Brussels	309,432	Feb. 21	204	26.3						9	3	1	5			21		9
Denmark	Copenhagen	225,000	Feb. 17	117	27.1														48.8
Italy	Rome	298,900	Jan. 31	324	56.5														21
Do	Leghorn	97,880	Feb. 28	62	33.1														40
Austria	Trieste	127,873	Feb. 7	100	40.8														32
Do	Vienna	575,285	Feb. 21	431	31.9														41
Hungary	Buda Pesth	309,705	Feb. 7	214	36.3														19
Do	do	309,705	Feb. 14	226	38.3														34.5
Romania	Bucarest	211,380	Feb. 14	200	49.3										3				1
Russian Poland	Warsaw	536,703	Feb. 14	127	21.2														18.3
Sweden	Stockholm	169,429	Feb. 14	70	21.6														22
Norway	Christiania	116,000	Feb. 14	26	16.1														22
Cape Colony	Cape Town	35,000	Feb. 18	28	26.8														8
Do	do	35,000	Feb. 9	20	14.7														74
Barbary	Tripoli	20,000	Feb. 7	6	15.6														82
Do	do	20,000	Feb. 14	10	26.1														77
Do	do	20,000	Feb. 21	20	26.1														56.9
Morocco	Tanger	15,000	Jan. 3	22	26.5														57.7
Do	do	15,000	Jan. 10	26	30.4								4	1					57.7
Do	do	15,000	Jan. 17	29	100.8														8.6
Do	do	15,000	Jan. 24	20	104.4														53.3
Do	do	15,000	Jan. 31	23	80.1														54.3
Japan	Kobe	11,346	Jan. 24	12	52.4														51.1
Do	do	11,346	Jan. 31	6	26.2														51.1
Do	do	11,346	Feb. 7	4	17.5														51.1

CANTON AND NINGPO, CHINA.—Reports from these cities from January 17 to 31 represent that no contagious diseases prevail, excepting the usual zymotic diseases of cities, and none of these were epidemic.

CEARA, BRAZIL.—United States Consular Agent S. Morgan sends reports for three months, but only the total numbers are given, as no records are kept. The population is estimated at 20,000. In November, 1879, there were 116 deaths; rate per annum, 36.5 per 1,000; mean temperature, 86.5. In December there were 121 deaths; annual death-rate, 36.2; mean temperature, 86. In January, 1880, there were 187 deaths; annual rate, 46.7; mean temperature, 86.5.

GHENT, BELGIUM.—United States Consul A. Lefebvre forwards a report for the year 1879, showing that there were 1,051 marriages, 4,539 births, and 3,546 deaths. The greatest monthly mortality was 323, in April; the least was 257, in July. The death-rate for the year, estimating the population at 130,100, was 29.9 per thousand.

ISLANDS OF MALTA AND GOZO.—United States Consul C. B. Lyndard reports 2 deaths from measles out of a total mortality of 261 for the two weeks ending February 15. The population being 453,500, the annual death rate per 1,000 was 11.3. Mean temperature, 56.

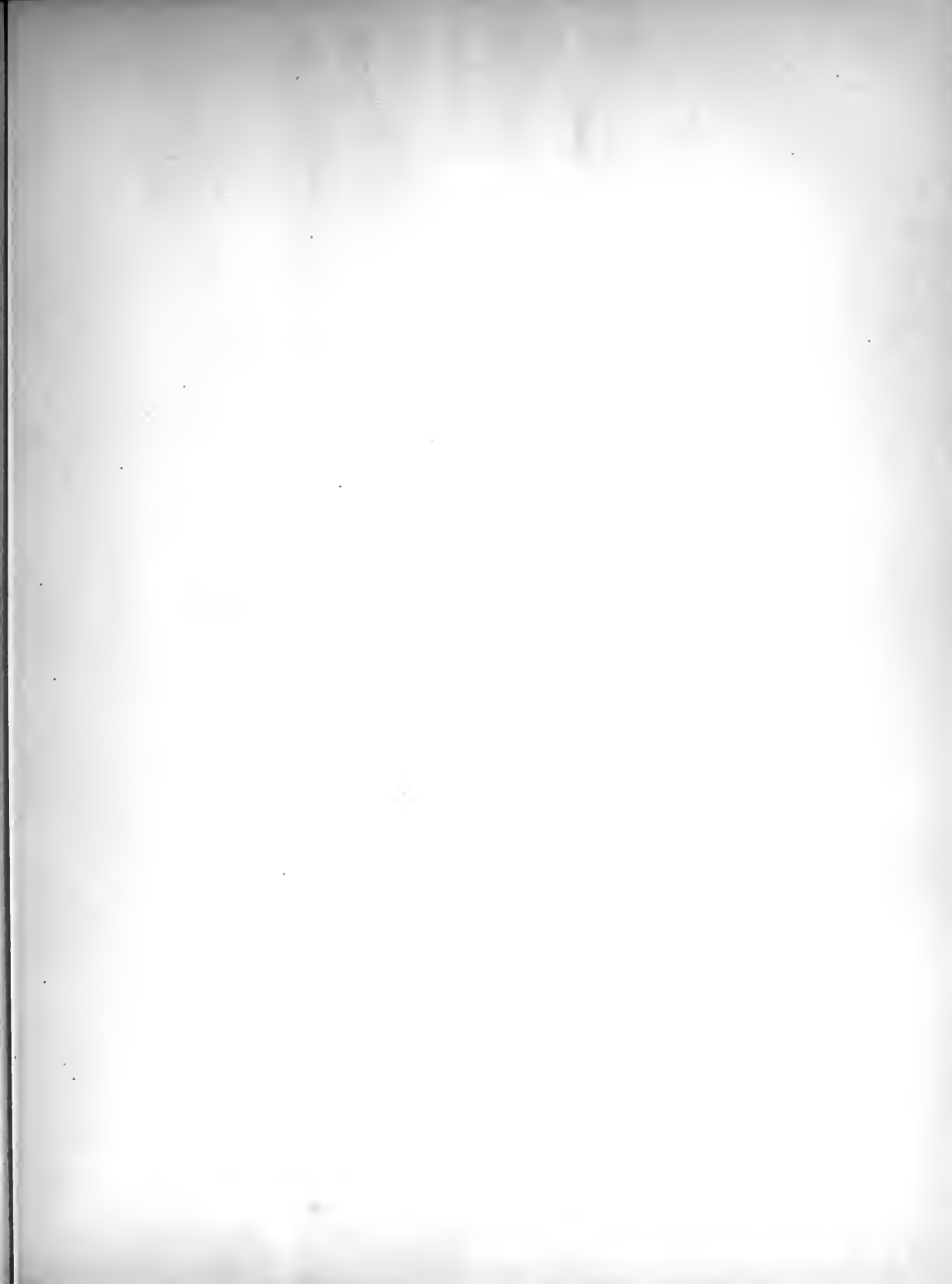
MESINA, SICILY.—United States Consul George H. Owen reports 24 deaths for the month of December, 1879, of which 2 were due to typhoid fever, and 22 to "other contagious diseases." The population being estimated at 77,000, the annual death-rate was 35.6 per 1,000.

MOSCOW, RUSSIA.—United States Consul R. P. Wilson sends a report of mortality for the month of October, 1879. The causes of death named are: Small-pox, 12; typhoid fever, 50; "other contagious diseases," 169; lung diseases, 429, and diarrheal diseases, 266. Deaths from all causes, 1,648. The population being 601,969, the annual death-rate was 32.8. Very little trouble is experienced from accumulations of filth, as even in October all are snow-covered and frozen.

NASSAU, BAHAMAS.—The consular report for the week ending February 28 states that reports lately current in Florida as to the existence of yellow fever at Nassau are entirely without foundation.

OSAKA, JAPAN.—United States Consul J. Stahel forwards a report of the patients under treatment at the Imperial Mint, Osaka, during the year ending June 30, 1879. Fifteen different departments are represented in the table, with the number of patients in each, but the number of officers and workmen is not given. The sick-list includes 119 patients, 49 being officials, and 350 workmen. Only 7 deaths occurred, from the following causes: Disease of the brain 2, of the heart 1, of the kidneys 1, of the lungs 1, Asiatic cholera 1, and beriberi 1.

SINGAPORE, EAST INDIES.—The consular report for the month of December shows a total of 230 deaths, but no estimate of population being given, the rate of mortality cannot be ascertained. No contagious diseases appear among the causes of death.



National Board of Health

BULLETIN.

Vol. 1.]

WASHINGTON, D. C., SATURDAY, MARCH 27, 1880.

[No. 39.]

MONTHLY REVIEW OF MORTALITY FOR FEBRUARY, 1880.

TABLE OF PRINCIPAL CAUSES OF DEATH.

Week ending—	Population.						Consumption and lung diseases.			Consumption.			Lung diseases, acute.			Diphtheria and croup.			Diphtheria.		
		Total deaths.		Deaths under 5 years.		Per cent. of total deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
		Number of deaths.	Annual rate per 1,000.	Number of deaths.	Annual rate per 1,000.																
February 7	8,182,447	2,978	18.99	1,116	7.12	37.50	890	5.67	30.90	488	3.11	16.40	462	2.56	13.51	240	1.53	.....	160	1.02	5.37
February 14	8,349,947	3,207	20.02	1,178	7.36	36.73	966	6.04	30.12	499	3.12	15.56	467	2.92	14.56	242	1.51	.....	148	0.92	4.43
February 21	8,495,919	3,019	19.08	1,139	7.20	37.72	884	5.43	29.26	463	2.84	15.32	421	2.55	13.93	179	1.10	.....	102	0.63	3.07
February 28	8,463,790	3,190	19.65	1,200	7.40	37.62	1,008	6.42	31.60	520	3.21	16.30	488	3.01	15.30	206	1.27	.....	135	0.83	4.23
Totals	33,494,133	12,394	.....	4,633	.....	3,748	.....	3,748	.....	1,970	.....	.....	1,778	.....	.....	867	.....	.....	543	.....	.....
Means	8,373,533	3,098	19.30	1,138	7.21	37.38	937	5.84	30.26	492	3.07	15.90	444	2.77	14.35	216	1.35	7.00	136	0.85	4.10

Week ending—	Croup.			Scarlet fever.			Diarrhoeal diseases.			Enteric fever.			Measles.			Whooping-cough.			Malarial fevers.			Small-pox.		
	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
February 7.	89	0.51	2.69	109	0.69	3.66	56	0.36	1.88	40	0.25	1.35	31	0.22	1.14	38	0.24	1.28	29	0.18	0.97	1	.....	.....
February 14	91	0.50	2.93	86	0.54	2.68	43	0.27	1.34	61	0.38	1.91	32	0.22	1.62	30	0.19	1.12	7	0.04	0.33	1	.....	.....
February 21.	77	0.47	2.55	91	0.56	3.01	49	0.30	1.62	48	0.29	1.59	49	0.30	1.62	43	0.27	1.42	4	0.02	0.19	1	.....	.....
February 28.	71	0.44	2.32	87	0.54	2.73	54	0.34	1.60	47	0.29	1.47	60	0.37	1.88	45	0.28	1.41	4	0.02	0.06	.....	.....	.....
Totals	322	.....	.....	373	.....	.....	202	.....	.....	196	.....	.....	195	.....	.....	162	.....	.....	17	.....	.....	.....	.....	.....
Means	80	0.50	2.60	92	0.58	3.01	50	0.31	1.63	49	0.30	1.58	48	0.30	1.58	40	0.25	1.31	.....	0.06	.....	.....	.....	.....

The number of cities represented in the weekly reports since the month of January has increased to an average of 90, and the mean population for February is 229,631 more than that for last month. The tables being made for four weeks, and not for the calendar month, the actual periods of time recorded as *months* are equal, and admit of direct comparison when the several items are reduced to their ratios to the mean population. This is 8,373,533 for February, and the total number of deaths being 12,394, the annual rate is 19.3 per 1,000, showing that the mortality has increased in a greater proportion than the population represented, since the rate for January was 18.2.

1. *Cause of death.*—The increase of mortality from *consumption* and *acute lung diseases*, from 5.69 to 5.84 per 1,000, is the chief factor in the increase of the general death-rate, and it is to be noted that the deaths from lung diseases have advanced over 19 per cent., while those from consumption are only about 11 per cent., greater in ratio to population since last month. The reason for this difference will, perhaps, be found, at least partly, in the greater protection generally afforded to those known to be affected with phthisis from the sudden and extreme variations of temperature which mark the ap-

proach of spring, and reach with most fatal effect those who are exposed, through impudence or necessity, and such as are careless in regulating their clothing to meet the changes.

Of the six zymotic diseases, two present no appreciable change in their rate of mortality since last month, *enteric fever* showing 0.30 and *whooping-cough* 0.25 deaths per 1,000 persons per annum. A marked increase in *measles* is seen in the rise of the mean death-rate from 0.2 to 0.30 since January, closing at 0.37 for the last week of February. *Malarial fevers* have also become more fatal, the ratio of deaths being 0.29, as compared with 0.15 for January. *Scarlet fever* has declined slightly for several weeks, and the rate has fallen from 0.62 to 0.78, while *diphtheria* and *croup* show 4.35 deaths per 1,000, a rise of 1.45 for the month. The effect of the decrease in the disease is indicated in the deaths under 5 years. The ratio of these to the population has shared in the advance of the general death-rate, and rose from 6.82 to 7.21 per 1,000, but the proportion to the total number of deaths has fallen from 37.54 to 37.38 per cent., showing that the death-rate among children has increased in a less degree than that for adults.

2. *Distribution of diseases.*—In order to avoid repetition, reference is made to the review for January (page 261), in which the division of the country into sections is explained. The relative mortality in the three sections from the principal causes of death, appears in the

following table, supposed to include only those diseases which, if not preventable, are more or less subject to control by the application even of our present knowledge of their causes and natural history:

TABLE OF DISTRIBUTION OF DISEASES IN THE UNITED STATES.

Sections.	Mean population.			Total deaths.			Annual rate per 1,000.			Consumption and lung diseases.			Consumption.			Lung diseases, acute.			Diphtheria and croup.			Diphtheria.		
	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
Northeast	4,423,618	7,423	19.02	2,332	6.02	31.34	1,149	3.10	16.13	1,083	2.92	15.20	526	1.42	7.36	333	0.90	4.67						
Southeast	1,741,397	12,426	18.82	2,781	6.09	32.48	452	3.52	18.62	329	2.56	13.55	86	0.67	3.54	44	0.34	1.81						
Northwest	12,046,893	12,982	13.96	596	3.56	25.02	300	1.74	12.39	296	1.72	12.42	233	1.55	9.78	156	0.90	6.54						

Sections.	Croup.			Scarlet fever.			Diarrheal diseases.			Enteric fever.			Measles.			Whooping-cough.			Malarial fevers.			Small-pox.		
	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
Northeast	193	0.52	12.71	266	0.54	2.81	32	0.25	1.29	115	0.31	1.61	149	0.40	2.09	78	0.21	1.09	55	0.15	0.77	21	0.05	0.24
Southeast	472	0.33	1.73	45	0.35	1.85	60	0.47	2.47	37	0.29	1.52	12	0.09	0.49	43	0.33	1.77	45	0.35	1.85	4	0.01	0.04
Northwest	57	0.44	3.23	127	0.74	5.33	44	0.26	1.85	39	0.23	1.64	33	0.19	1.38	35	0.20	1.47	28	0.16	1.17	.....	.....	.....

It will be observed that the Northwest continues to present the lowest death-rate, but the difference in favor of that section is less marked than last month, owing to a considerable increase in the ratio of deaths from lung diseases. The explanation suggested above applies especially to this section, where the inland cities suffer far more sudden and extensive changes of temperature than the sea-board cities of the Northeast, or the lower latitudes of the Southeast. These conditions have raised the mortality from lung diseases in the Northwest from 0.99 to 1.72, while consumption, in the same section, has only advanced from 1.62 to 1.74. In the Northeast, the rate for consumption has declined from 3.27 to 3.10, and lung diseases having increased only from 2.34 to 2.92, the rate for both is 6.02, against 6.07 for January. In the Southeast, both diseases have increased in fatality: consumption from 2.79 to 3.52, and lung diseases from 2.10 to 2.56, making the rate for both 6.09, against 5.45 in January. The previous comparative exemption of the Southeast from measles and scarlet fever has rendered that section more liable to those diseases, and while scarlet fever has declined considerably in the other divisions of the country the rate in the Southeast has risen from 0.31 to 0.35; the general advance of measles over the whole country has also been most marked in the South, where the rate is three times as great this month as in January, though still only 0.69 per 1,000, as compared with 0.49 and 0.19 for the Northeast and the Northwest. Enteric fever has increased only in the Northeast, where the rate has risen from 0.23 to 0.31; in the Northwest, it has fallen from 0.25 to 0.23, and in the Southeast from 0.55 to 0.29 per 1,000. Whooping-cough has declined in the Northeast section from 0.28 to 0.21; in the other two it has increased. Malarial fevers are becoming more fatal in all parts of the country, the rise in the death-rate (from 0.21 to 0.35) being most marked in the Southeast. From small-pox 26 deaths were reported in January, and 25 in February; but for reasons stated in the weekly summary at different times, these figures have no value, except as indicating the imperfect character of the returns with regard to this disease. The reports of other contagious diseases are probably reasonably accurate. The mortality among the white and colored populations during the month is derived from reports of over 20 cities, from Boston to New Orleans. The average

white population represented is 1,563,124, with a total of 2,173 deaths during the month, giving 167 as the annual death-rate per 1,000. The mean colored population is 374,945, with 959 deaths, and an annual rate of 31.6 per 1,000. For the month of January, the respective rates of mortality were 10.4 for the white, and 24.3 for the colored population, as deduced from a much smaller number of reports.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

BRATTLEBOROUGH, VT., March 20.—HENRY D. HOLTON writes that influenza is epidemic throughout Southern Vermont. Pneumonia is also prevalent, especially among old people.

LANSING, MICH.—DR. H. B. BAKER writes that the case of small-pox reported March 9, at Ypsilanti, is recovering, and no further cases have occurred.

NAVASOTA, TEX., March 1.—DR. A. R. KILPATRICK makes the following report for the two months preceding: *January*, 1 death, whooping-cough, white female, age 1 year. *February*, 1 from apoplexy, colored man, aged 70 years; 1 from consumption, white woman, aged 45 years; 1 from cerebro-spinal fever, colored, aged 10 years. Total, 4 deaths for the 2 months; annual death-rate, 8.9 per 1,000, the population being estimated at 2,700, of whom about 1,800 are white. The following meteorological conditions were observed: *January*, rain on 5 days, cloudy 22 days; frost and ice on 23d and 24th, when the thermometer showed 40° at 7 a. m.; highest temperature, 86°, on the 17th. *February*, rain fell on 5 days, 23 cloudy days; ice on the 3d, 4th, and 15th, on which days 32° was the lowest temperature observed; highest, 76°, on the 24th. On the 25th a "norther" caused a change of temperature of 36° in 4 hours—from 71° to 35°—between noon and 4 p. m.

ABSTRACTS FROM CONSULAR REPORTS.

BANGKOK, SIAM.—The Department of State forwards a letter dated January 14, from United States Consul David B. Sickles, stating that there is no source from which information could be obtained to fill reports of mortality or of vital statistics. There are no hospitals or other institutions connected with the public health; the native practitioners are not willing, and the foreign physicians are not able to supply the data for reports of deaths and prevailing diseases.

VALPARAISO, CHILE.—The report of United States Consul L. H. Foote, for the month of January, records 347 deaths from small-pox, out of a total of 891 deaths, in a population of 101,088. A reference to the reports for preceding months will show that the deaths from this disease were for some time over 600 monthly, and contributed one-half to the total mortality. The annual death-rate for January was 95.7 per thousand.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MARCH 13, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of	Consumption.	Cholera.	Diarrhoeal diseases.	Diphtheria.	Enteric.	Malaria.	Scarlet.	Yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.	Whooping cough.	All zymotic diseases.	Accidents and injuries.
Mo.	St. Louis	20,000	1	6	13.6	3														
	Portland	36,400	3	20	28.6	5	1					3				1			2	1
N. H.	Concord	14,000	1	6	22.3															
Mass.	Boston	375,000	44	142	19.7	12			9							1			3	2
	Cambridge	50,000	3	8	8.3	2			1											
	New Bedford	27,000	2	6	11.6	1						1								
	Newburyport	13,800	1	7	26.4				2											
	Marblehead	7,500		3	20.8				1											
	Fall River	48,500		12	20.1	3													1	
	Plymouth	6,334		1	8.2															
	Lawrence	40,000	3	7	9.1	1														
	Worcester	52,000	11	16	16.0	1														1
	Lowell	54,000	12	9	16.8	2						1				1				
	Lynn	37,000	1	12	16.9	4			1							3				
	Pittsfield	12,300		9	38.1								2			1				
	Milford	10,000	1	2	10.4	1														
	Holyoke	20,000	5	9	20.4															
	Somerville	23,500	1	3	6.7														1	
	Chicago	11,000		2	9.5															
	Springfield	31,000	2	13	21.9	3			1			1							2	
	Fitchburg	12,500		10	32.8	3														
R. I.	Providence	102,000	10	32	16.3	2													8	
Conn.	New Haven	68,000	13	25	21.7	2			3	1						7	1		1	6
Vt.	Barre	16,500	2	5	15.8	2														
N. Y.	New York	1,097,563	237	329	25.1	102	15	9	8	2	6	7		104	27	8			8	19
	Brooklyn	564,438	71	106	17.7	37	7		12	1	3	3		28	8	2			4	44
	Yonkers	20,000	2	4	10.4	2														
	Poughkeepsie	21,000	1	3	7.4	1														
	Newburg	17,700	4	12	35.2	3			1											
	Sing Sing	7,500	2	7	29.7	1			1											
	Utica	35,000	2	12	17.9	2														
	Buffalo	170,000	22	43	13.2	6		2	3	1		4		6	1				2	14
	Rochester	90,000	10	30	17.4	1	4		1			1		3	2					
	Binghamton	18,000	1	1	17.4							1								
	Schenectady	6,300	1	1	15.3															
N. J.	Hudson County	193,000	32	77	20.2	13	3	1	1			1		10	1	3			11	1
	Newark	125,000	20	41	18.3	9	4	1	1					6		1				
	Orange	12,000	1	1	15.3															
	Plainfield	8,000	1	3	19.5															
Pa.	Philadelphia	901,380	108	327	18.9	66	6	2	7	8		1		34	10				4	1
	Erie	30,000	6	14	24.3	1			2	1	1			1					4	3
	Reading	49,350	8	16	20.7	3			3					1						
	Pittsburgh	140,000	25	55	14.4	7			1			2		11	2	2			4	12
Del.	Wilmington	44,000	5	11	13.0	2								1						
Md.	Baltimore	400,000	40	110	14.3	23	8		4	3		4		12		2			1	21
District of Columbia		170,000	30	83	25.4	20	1	2	1	1		1		16		1			10	6
Va.	Norfolk	35,000	7	8	16.7	1								3					2	
	Richmond	80,000	25	36	23.5	7			1	2	1			4					5	
N. C.	Wilmington	17,000	1	4	12.3											1				
S. C.	Charleston	57,000	10	17	15.5	1			1					3						
Ga.	Savannah	32,556	6	11	17.5	2			2	1									1	
	Augusta	27,000	5	9	9.6	1						1								
	Atlanta	41,548	1	10	12.5	2								2						1
Fla.	Jacksonville	10,000	1	4	20.8	1													1	
Ala.	Mobile	40,000	2	7	9.1	3			1											
Mass.	Wickford	15,000	2	4	13.9															
La.	New Orleans	219,000	31	78	19.4	8		3	2	1	2	1		9		1		2		
	Shreveport	9,500	3	3	16.1	1								1						
Tex.	Austin	16,000	3	7	22.8	2														
	El Paso	25,500	1	4	9.9															
Tenn.	Memphis	30,650	6	14	23.8	2			1					1						1
	Nashville	37,000	1	9	12.7					1	1			2						
	Clarksville	6,000		3	26.0	2														
W. Va.	Wheeling	25,500	8	15	23.4	1								2		3	1			
Ohio	Cincinnati	280,000	27	66	12.3	10	1			1				9					1	5
	Cleveland	175,000	25	31	9.2	3			5		1	7		12		2			1	16
	Dayton	39,000	4	6	8.0	1			1											
	Gallipolis	5,500		1	18.5					1										
Ind.	Evansville	40,000	5	14	14.5	1					1			7						
	Indianapolis	100,000	10	31	17.2	3			1	1		2		8					6	1
Ill.	Chicago	537,624	90	168	16.3	21	14	3	18	2	1			20	5	1			3	54
	Peoria	40,000																		
	Quincy	15,000	2	2	6.9	1	1							5					1	3
	Jacksonville	15,000	2	2	6.9	1	1													
	Moline	8,000		1	6.5															
Wis.	Milwaukee	127,000	23	44	14.1	3	3	1	6					4					13	
	Bellevue	5,000	1	1	14.0															
Minn.	Saint Paul	51,000	4	20	20.4									1						
	Minneapolis	52,000	8	20	20.0	3	1							3					1	1
Iowa	Des Moines	25,000	1	1	2.0															
	Dubuque	30,000		4	16.4						1									
	Keokuk	15,000	1	7	23.1	5								1					1	
Mo.	Saint Louis	500,000	46	111	11.6	17	1	5	1	4	1			20	1	1			5	25
	Sedalia	12,000		3	14.0															
Kans.	Lawrence	12,000		1	21.5															
Neb.	Omaha	30,000	2	5	7.7	1														
Utah	Salt Lake City	25,000	2	7	14.6									2					3	

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MARCH 13, 1890—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths, representing an annual death-rate per 1,000 of—	Consumption.	Croup.	Diarrheal diseases.	Diphtheria.	Euteric.	Malarial.	Scarlat.	Yellow.	Lung disease, acute.	Measles.	Pneumonal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents and injuries.
Cal.....San Francisco.....	365,000	28	95	16.2	15													3
.....Los Angeles.....	16,000																	
.....Vallejo.....	7,500																	
Totals.....	8,382,942	1,142	2,871	17.9	498	80	45	107	43	27	63	441	65	39		46	436	79

Boston has 370,000 white, 5,000 colored, deaths, 142 white. Rate in table. Lawrence, Mass., has 39,800 white, 200 colored; deaths, 7 white. Rate in table. Providence has 98,200 white, 2,800 colored; deaths, 32 white. Rate in table. St. Louis has 72,500 white, 2,500 colored; deaths, 6 white, 1 colored. Rate per 1,000, white 14.2, colored 208.7. Reading has 40,000 white, 550 colored; deaths, 16 white. Rate in table. Wilmington, Del., has 33,000 white, 5,000 colored; deaths 9 white, 2 colored. Rate per 1,000, white 12.9, colored 20.3. Baltimore has 343,715 white, 56,285 colored; deaths, 80 white, 24 colored. Rate per 1,000, white 12.9, colored 22.2. District of Columbia has 111,000 white, 56,000 colored; deaths, 41 white, 42 colored. Rate per 1,000, white 18.7, colored 39.3. Norfolk has 15,300 white, 4,500 colored; deaths, 3 white, 5 colored. Rate per 1,000, white 10.1, colored 27.4. Richmond has 36,000 white, 34,000 colored; deaths, 17 white, 19 colored. Rate per 1,000, white 13.3, colored 23.1. Wilmington, N. C., has 714 white, 10,256 colored; deaths, 1 white, 3 colored. Rate per 1,000, white 7.5, colored 15.2. Charleston has 25,000 white, 32,000 colored; deaths, 3 white, 11 colored. Rate per 1,000, white 6.2, colored 22.8. Savannah has 17,493 white, 15,163 colored; deaths, 5 white, 6 colored. Rate per 1,000, white 14.9, colored 20.6. Augusta has 16,176 white, 10,824 colored; deaths, 4 white, 1 colored. Rate per 1,000, white 12.9, colored 4.8. Atlanta has 25,373 white, 16,175 colored; deaths, 4 white, 6 colored. Rate per 1,000, white 8.5, Nashville has 26,000 white, 11,000 colored; deaths, 6 white, 3 colored. Rate per 1,000, white 12.9, colored 20.0. Mobile has 28,000 white, 32,000 colored; deaths, 5 white, 2 colored. Rate per 1,000, white 9.3, colored 8.7. New Orleans has 155,000 white, 55,000 colored; deaths, 15 white, 33 colored. Rate per 1,000, white 15.1, colored 31.3. Shreveport has 4,500 white, 5,000 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 23.2, colored 10.4. Austin has 12,000 white, 4,000 colored; deaths, 3 white, 5 colored. Rate per 1,000, white 13.0, colored 65.2. Memphis has 16,765 white, 13,954 colored; deaths, 2 white, 12 colored. Rate per 1,000, white 6.2, colored 16.0. St. Paul has 28,000 white, 11,000 colored; deaths, 6 white, 3 colored. Rate per 1,000, white 12.9, colored 14.2. Charles City has 3,000 white, 3,000 colored; deaths, 3 colored. Rate in table. Wheeling has 28,000 white, 900 colored; deaths, 15 white. Rate in table. Burlington, Iowa, has 25,000 white, 600 colored; deaths, 1 white. Rate in table. Lawrence, Kans., has 6,800 white, 1,700 colored; deaths, 2 white, 2 colored. Rate per 1,000, white 15.3, colored 61.4. Total white population, 1,486,226; deaths, 459; annual death-rate 16.1 per 1,000. Total colored population, 365,957; deaths, 186; rate per 1,000, 26.5.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.	Yellow fever.	Small-pox.	Typhoid fever.	Typhus fever.	Other contagious diseases.	Weekly mean of thermometer.
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Vancover's Island.	Victoria.....	5,000	1889.	6	20.9							43
Canada.....	Montreal.....	135,500	Mar. 6	62	20.5						6	26.6
.....	St. John's.....	9,000	Mar. 13	4	20.9							15.3
.....	Kingston.....	16,000	Mar. 13	6	19.6							18.3
.....	Hamilton.....	14,867	Mar. 9	9	7.0							67
.....	.....	11,867	Mar. 16	2	7.0							71.2
.....	Pont-a-Pitre.....	27,919	Feb. 21	13	29.6							7.9
Mexico.....	Acapulco.....	3,500	Feb. 7	7	104.4							83
.....	.....	3,500	Feb. 14	8	119.3							84
.....	.....	3,500	Feb. 21	21	134.1							85
.....	Matamoros.....	16,000	Feb. 28	7	25.7							85.5
Ireland.....	Belfast.....	182,082	Feb. 28	104	30.1			10			71	4 44
.....	Dublin.....	314,696	Feb. 28	253	41.3			3			3	27 43.0
Scotland.....	Glasgow.....	155,000	Feb. 28	70	23.4			1			355	42.6
.....	Leith.....	58,000	Mar. 6	25	22.5					1		39 43.4
England.....	Sheffield.....	297,438	Feb. 28	125	21.4							16 40.5
.....	London.....	3,664,149	Feb. 28	1,062	25.7			13		11		204 40.5
.....	Manchester and Clifton.....	213,500	Feb. 28	98	25.9						1	12 40.6
.....	Newcastle-on-Tyne.....	146,948	Feb. 28	70	24.9							10 43
France.....	Bayreuth.....	92,068	Feb. 28	61	34.6							49
.....	Pavia.....	1,968,800	Feb. 28	1,206	32.5							64
.....	Lyons.....	312,815	Feb. 28	244	35.6			12		67		.....
Switzerland.....	Zurich.....	222,163	Feb. 27	16.5							1	.....
Holland.....	Rotterdam.....	150,278	Mar. 6	93	33.0				1	1		11 3
Germany.....	Berlin.....	1,087,300	Feb. 21	519	24.8				11	8	153	60 38.6
.....	Barmen.....	105,000	Feb. 21	44	24.7							6 38.8
.....	Mannheim.....	50,000	Mar. 6	24	24.8							48.2
.....	Strassburg.....	105,825	Feb. 21	60	29.6							4 44.6
.....	Frankfurt.....	155,000	Feb. 21	157	46.5							14 32.0
.....	Frankfurt.....	105,000	Feb. 14	16	22.9				2	1	1	8 41.9
.....	Frankfurt.....	105,000	Feb. 14	24	23.4							6 41.9
.....	Frankfurt.....	156,000	Feb. 21	64	26.5							33.6
.....	Frankfurt.....	156,000	Feb. 21	124	26.5							33.6
.....	Frankfurt.....	156,000	Feb. 28	42	29.6							33.6
Belgium.....	Antwerp.....	169,981	Feb. 14	87	26.7				20	3	12	1 42.8
.....	.....	169,981	Feb. 21	96	23.5				28	7	12	2 46.4
.....	.....	169,981	Feb. 28	153	45.0				25	6	11	1 29.8
Saxony.....	Leipzig.....	160,000	Feb. 21	67	21.8							10 41.1
.....	Dresden.....	218,000	Feb. 21	109	19.2				2	2		10 41.1
.....	Chemnitz.....	89,000	Feb. 21	51	29.9							40
Prussia.....	Vorms.....	106,240	Feb. 21	41	25.7							6 36.7
Denmark.....	Copenhagen.....	235,211	Feb. 14	123	29.9				9			14 32.3
Italy.....	Rome.....	298,060	Jan. 3	301	52.2							32 42.4
.....	.....	298,060	Jan. 10	298	51.7							23 39.2
.....	.....	298,060	Jan. 17	313	54.3							41 38.1
.....	.....	298,060	Jan. 24	292	50.9							12 35.6
.....	Leghorn.....	97,880	Mar. 6	37	30.1							50.7
Austria.....	Vienna.....	127,873	Feb. 11	108	44.3				3			23 37.6
.....	Vienna.....	127,873	Feb. 18	141	28.9				10			1 32.3
Russia.....	Warsaw.....	236,705	Feb. 21	129	29.6							10 25.7
Sweden.....	Stockholm.....	169,429	Feb. 21	80	27.4							10 25.7
Norway.....	Christiania.....	116,000	Feb. 21	40	17.9				2			10 25.9

[illegible]

Name of hospital.	Place.	Character of hospital.	Number of beds.	Patients at last report.	Con- sumption.	Croup.	Diph- theria.	Fever, enteric.	Fever, malarial.	Fever, scarlat.	Lung diseases, acute.	Measles.	Puer- peral dis- eases.	Small- pox.	Totals.
New York City Infirmary Asylum	New York City	Asylum	1,000	1,000	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Rockland State Hospital	Rockland, N. Y.	State Hospital	244	244	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Michigan State Hospital	Lansing, Mich.	State Hospital	244	244	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Willard Asylum	Willard, N. Y.	Asylum	15	15	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
State Hospital for Insane	Danville, Pa.	State Hospital	700	700	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Dixonsville Asylum	Dixonsville, Pa.	Asylum	444	444	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Philadelphia Asylum	Philadelphia, Pa.	Asylum	553	553	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Maryland Hospital for Insane	Croftsville, Md.	Hospital for Insane	258	258	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
E. L. Asylum	Williamsburg, Va.	Asylum	318	318	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
North Carolina Asylum	Wilmington, N. C.	Asylum	278	278	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Longview Asylum	Longview, N. C.	Asylum	600	600	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Michigan Asylum for Insane	Ann Arbor, Mich.	Asylum for Insane	900	900	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Michigan Asylum for Insane	Ann Arbor, Mich.	Asylum for Insane	650	650	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Minnesota Asylum	St. Peter, Minn.	Asylum	1,000	1,000	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
St. Louis Asylum	St. Louis, Mo.	Asylum	212	212	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.
Stockton Asylum of California	Stockton, Cal.	Asylum	1,117	1,117	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.	Admitted.

The following reports, for the week ending March 13, are from places requiring burial permits, and having less than 5,000 population:

Brunswick, Ga., 3,000; consumption 1. Edgartown, Mass., 1,400; 1 death. Franklin, Tenn., 1,621; no deaths. Morgan City, La., 2,500; no deaths. Munfreesboro', Tenn., 4,000; no deaths. Nantucket, Mass., 3,000; deaths, 6; diarrhoea 1, apoplexy 2, old age 3. Saint Augustine, Fla., 2,500; 1 death. Shelbyville, Tenn., 2,000; deaths, 2. Total population, 20,021; deaths, 11; annual rate per thousand, 25.6.

The following reports, for the week ending March 13, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 3; under 5 years, 1; consumption 1. Allegheny, Pa., 75,000; deaths, 16; under 5 years, 4; consumption 5, diphtheria 1, lung diseases 2. Bath, Me., 10,000; consumption 1. Battle Creek, Mich., 7,500; old age 1. Benton County, Miss., 11,000; 1 death. Boulder, Col., 3,500; no deaths. Brattleboro', Vt., 6,500; deaths, 3. Cambridge, N. Y., 1,900; deaths, 3; consumption 2, pneumonia 1. Carrollton, Miss., 600; no deaths. Chatham, Conn., 3,000; no deaths. Chico, Cal., 5,000; pneumonia 1. Chillicothe, Ohio, 12,000; deaths, 5; under 5 years, 1; puerperal 1. Chillicothe, Mo., 4,750; no deaths. Circleville, Ohio, 6,400; consumption 2. Columbus, Ga., 10,000; deaths, 3; under 5 years; pneumonia 1. Corinth, Miss., 2,300; no deaths. Crystal Springs, Miss., 1,000; consumption 1. Cumberland, Md., 12,000; deaths, 5; under 5 years, 2; consumption 1, lung diseases 2. Dallas, Tex., 15,000; deaths, 3; consumption 2. Danbury, Conn., 9,350; deaths, 2; pneumonia 1. Davenport, Iowa, 27,000; deaths, 4; under 5 years, 1; consumption 1, diarrhoea 1. East Haven, Conn., 1,200; no deaths. Fairfield, Conn., 4,000; pneumonia 1. Fayette, Miss., 300; no deaths. Flint, Mich., 10,000; no deaths. Greenville, Ala., 4,500; 1 death. Helena, Montana, 3,500; no deaths. Huntington, Pa., 4,500; no deaths. Huntington, Tenn., 850; no deaths. Indianapolis, Tex., 900; deaths, 3; under 5 years, 1; diarrhoea 1, old age 1. Iuka, Miss., 1,000; measles 1. Jefferson, Tex., 3,000; 1 death. Jeffersonville, Ind., 11,000; deaths, 5; under 5 years, 1; consumption 1. Kenosha, Wis., 5,000; diphtheria 2. Lebanon, Pa., 9,000; pneumonia 1, under 5 years, 1. Little Falls, N. Y., 5,900; 1 death. Louisiana, Mo., 5,200; no deaths. Lynchburg, Va., 21,000; deaths, 13; under 5 years, 6; consumption 3, enteric fever 1, pneumonia 1, whooping cough 2. Madison, Ind., 12,000; deaths, 3; under 5 years, 2. Marquette, Mich., 4,000; no deaths. Meridian, Miss., 3,500; 1 death. Milledgeville, Ga., 4,000; no deaths. Monmouth, Ill., 6,000; pneumonia 1, under 5 years, 1. Mount Pleasant, Iowa, 5,000; deaths, 5; under 5 years, 1. Muscatine, Iowa, 7,537; lung diseases 2. Muskogee, Mich., 13,025; deaths, 5; consumption 2, malarial fever 2, pneumonia 1. Natchez, Miss., 10,000; consumption 1. New Britain, Conn., 12,100; deaths, 8; under 5 years, 3; consumption 1, lung diseases 6. Norwalk, Conn., deaths 3; population not given. Okolona, Miss., 3,000; no deaths. Oshkosh, Wis., 18,000; deaths, 7; under 5 years, 2; consumption 2, croup 1, enteric fever 1, puerperal fever 1. Painesville, Ohio, 5,000; consumption 1. Phoenixville, Pa., 6,000; deaths, 3; consumption 1. Pomeroy, Ohio, 6,200; scarlet fever 2. Pontotoc, Miss., 600; no deaths. Port Gibson, Miss., 1,100; deaths, 2; pneumonia 1. Port Jervis, N. Y., 10,000; deaths, 3; under 5 years, 2; diphtheria 1, pneumonia 1. Portsmouth, Va., 14,000; deaths, 3; consumption 1. Pulaski, Tenn., 2,100; no deaths. Ripley, Miss., 1,000; 1 death. Rock Island, Ill., 3 deaths; no population given. Rockland, Me., 7,000; deaths, 2; under 5 years, 1. San Diego, Cal., 3,000; deaths, 3; consumption 1, pneumonia 1. Santa Cruz, Cal., 5,000; consumption 1. Springfield, Ohio, 23,000; deaths, 5; consumption 3, diphtheria 2. Starkville, Miss., 1,163; no deaths. Stebensville, Ohio, 13,500; 3 deaths, under 5 years. Summit, Miss., 2,250; deaths, 2, under 5 years, 1; diarrhoea 1. Tampa, Fla., 1,200; no deaths. Titusville, 9,000; deaths, 2. Tuscaloosa, Ala., 4,000; deaths, 2; consumption 1. Watertown, N. Y., 7 deaths; no population given. Waxahatchie, Tex., 2,000; no deaths. Wesson, Miss., 2,000; no deaths. Winchester, Va., 5,500; deaths, 2; under 5 years, 1; croup 1. Winona, Minn., 11,786; consumption 1. Youngstown, Ohio, 17,000; 1 death.

Total population, 543,211; deaths under 5 years, 38; total deaths, 115; annual death-rate per thousand, 13.2.

WEEKLY SUMMARY OF MORTALITY.

The population represented in the reports for the week ending March 13 is 5,382,912, or 37,900 less than that for last week. With this small reduction in population the total number of deaths, 2,871, is 317 less than before, and the annual rate falls from 19.7 to 17.9 per 1,000. Consumption and acute lung diseases show an annual rate of 5.84 against 6.23 for last week, and the decrease is chiefly in the mortality from lung diseases. The zymotic diseases have changed as follows: Increased, measles, from 0.22 to 0.40; malarial fevers, from 0.13 to 0.17; whooping cough, from 0.21 to 0.23. Decreased, diphtheria, from 0.55 to 0.06; scarlet fever, from 0.53 to 0.39; enteric fever remains at 0.28 per 1,000. The mortality under five years of age has fallen from 7.52 to 7.10 per 1,000; at the same time the percentage of the total mortality has risen from 38.1 to 39.6, showing that the rate of deaths among adults has decreased more rapidly than that among young children. No deaths from small-pox are reported this week, and probably but few have occurred.

1. NAME OF THE ORGANIZATION

2. ADDRESS OF THE ORGANIZATION

3. CITY AND STATE

4. ZIP CODE

5. PHONE NUMBER

6. FAX NUMBER

7. E-MAIL ADDRESS

8. TYPE OF ORGANIZATION

9. DATE OF ESTABLISHMENT

10. NUMBER OF EMPLOYEES

11. TYPE OF SERVICE

12. DATE OF SERVICE

13. NAME OF THE SERVICE

14. ADDRESS OF THE SERVICE

15. CITY AND STATE

16. ZIP CODE

17. PHONE NUMBER

18. FAX NUMBER

19. E-MAIL ADDRESS

20. TYPE OF SERVICE

21. DATE OF SERVICE

22. NAME OF THE SERVICE

23. ADDRESS OF THE SERVICE

24. CITY AND STATE

25. ZIP CODE

26. PHONE NUMBER

27. FAX NUMBER

28. E-MAIL ADDRESS

29. TYPE OF SERVICE

30. DATE OF SERVICE

31. NAME OF THE SERVICE

32. ADDRESS OF THE SERVICE

33. CITY AND STATE

34. ZIP CODE

35. PHONE NUMBER

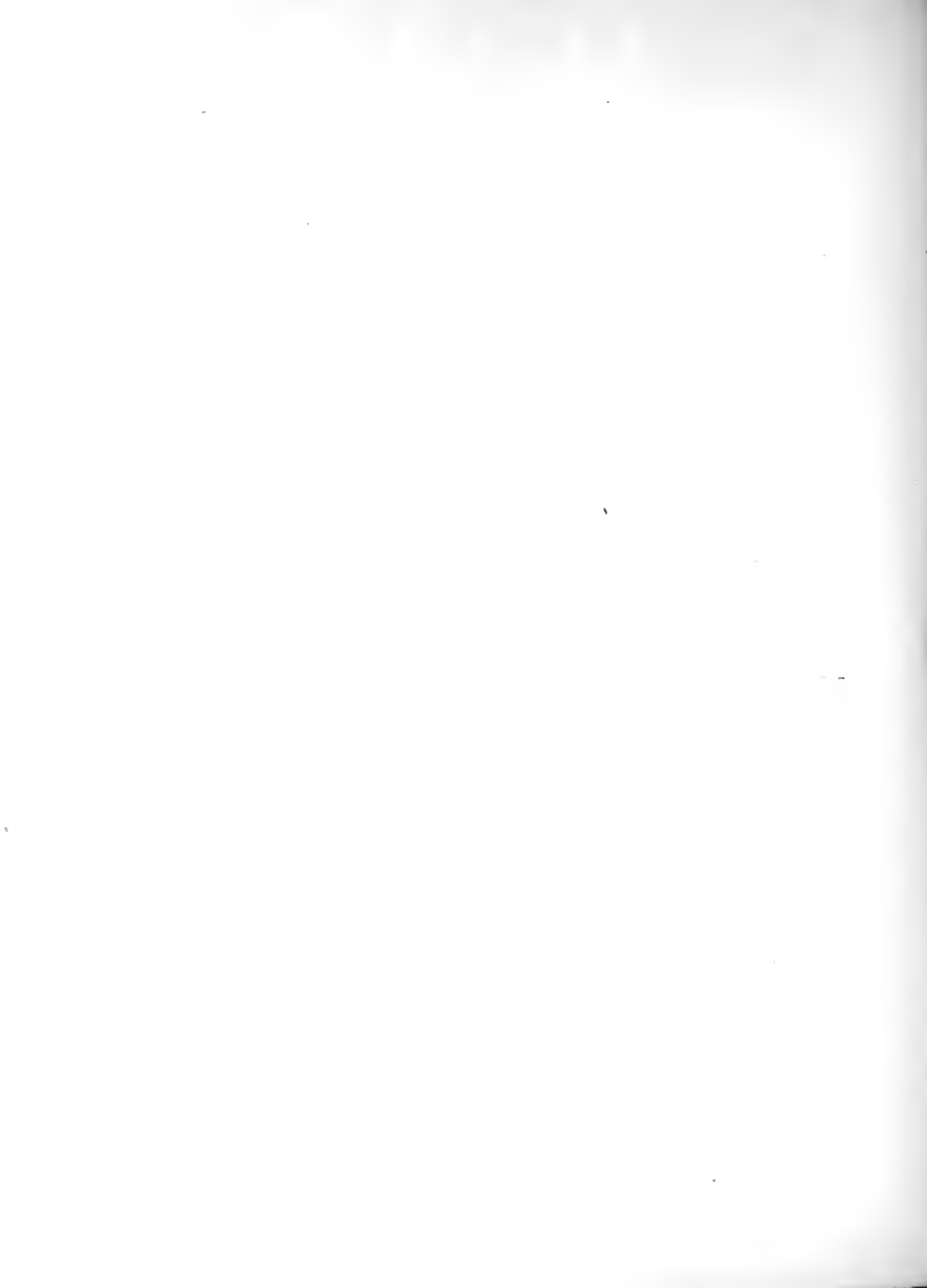
36. FAX NUMBER

37. E-MAIL ADDRESS

38. TYPE OF SERVICE

39. DATE OF SERVICE

40. NAME OF THE SERVICE



National Board of Health

BULLETIN.

Vol. 1.]

WASHINGTON, D. C., SATURDAY, APRIL 3, 1880.

[No. 40

SANITARY REGULATIONS FOR THE ISLAND OF CUBA.

The following is a translation of a decree relating to the sanitary condition of the island of Cuba:

GENERAL GOVERNMENT OF THE ISLAND OF CUBA—PUBLIC HEALTH.

The salubrity of this country is an indispensable condition for the preservation of its public health and the development of its population. European immigration, and especially that from Spain, which ought by every known reason bring into this island in preference to other countries the concurrence of its labor and its intelligence, is directed to other places on this side of the world, through fear of the yellow fever, which, during the spring and summer months of the year, causes so many victims among those who are not native to the soil.

The government of His Majesty, ever solicitous to advance as much as possible the well-being of the inhabitants of these important provinces of the kingdom, and to remove all obstacles which are opposed to the development of the wealth and the increase of the population of the country, has ordered, at the suggestion of this general government, the creation in this capital of a junta, to be composed of scientists and savans, and presided over by the governor of the province, which, after due examination into and study of the causes that promote the development of so terrible a scourge in the bay of this city, shall propose the measures that should be employed as most efficacious to combat and arrest it. However, aside from the results of the labors of this junta, and the adoption of the measures it may suggest, which will assuredly be beneficial to the public health, great assistance can be given to this place by adopting measures of sanitary police, which carried out scrupulously in this port, and in all those of any importance in the island, shall succeed in lessening the evil, and its terrible effect, shall improve the salubrity of the land, and shall offer such guarantees to immigration and to commerce that will dispel from the minds of all the sad and notorious reputation of general unhealthiness that this island has acquired.

In view of these considerations and in addition to what is already prescribed by the regulations of maritime health in force, I have ordered, in conformity with the report from the superior board of health, and the approval of His Majesty's government, that the following regulations shall be observed:

First. At the termination of the discharge of every vessel in any of the ports of this island where there may be a health physician, the same shall be made known to the sanitary deputation, so that the vessel may be immediately inspected by the physician to whom this service pertains.

Second. No vessel shall admit on board either cargo or ballast without having been inspected as provided for in the foregoing rule, and has the ticket of the sanitary deputation expressing: "Inspected and ready to receive cargo." (*Inspeccionado y listo para cargar.*)

Third. When the vessel shall have finished loading, the master or supercargo shall notify the deputation for a new inspection, the health physician making known to the captain or supercargo such defects as he may note, so that they may be corrected. In the case where the vessel has good sanitary conditions, as well as where the defects noted shall not have been rectified, it shall be so stated in the bill of health (patente), and in the latter case that the master was duly notified thereof.

Fourth. In his visits of inspection to the vessels before named, the health physician shall scrupulously examine into the general condition of the vessel, all her departments, hold, between-decks, machinery, furnaces, cabins, berths, galley, pantry, water-closet, sick-room, medicine-chest, water supply, provisions, and whatever else may be deemed necessary. He will inform himself whether in all respects the vessel fulfills all legal prescriptions in force, and complies with the most indispensable requisites of maritime hygiene.

Fifth. In the visit to vessels that have finished loading and are ready to sail, care should be taken to make sure that there is not on board any one attacked with or convalescent from yellow fever; that the total number of passengers and crew are in proportion to the tonnage of the space left after the completion of the cargo; that she carries a physician, medicine-chest, medical apparatus, and a hospital to the extent required; that she has a water-supply, provisions, and other necessary resources for the voyage she has to undertake.

Sixth. When the visiting physician considers that the vessel should be fumigated at the conclusion of her loading or discharging, he will

indicate to the master, in writing, the means of carrying it out; and likewise it shall be understood when he deems it necessary to open the ports, put up ventilators, or to make any other modifications in the cabins and between decks.

Seventh. The orders that the physician may give to the captain, or to the one who may represent him on board, he shall communicate in writing, and he shall take from the same a paper writing acknowledging the notification.

Eighth. The bay and all the establishments located near it, public, private, civil, military, without any exception whatever may be their class, shall be the object of periodical visits on the part of the health physician, who shall take note of the infractions he may notice of the hygiene rules ordered to be observed, and of the measures which, in his opinion, should be taken to remove the causes of insalubrity of any place upon the shore of the bay, making it known to the deputation of the port, for their resolution, as well as to make the suggestions he may deem proper to the chiefs, owners, or agents, should they accept all the reforms that are suggested to them.

Ninth. The three physicians of the port of Havana will alternate each ten days in the discharge of this duty.

HABANA, March 10, 1880.

RAMON BLANCO.

PROPOSED REGULATIONS FOR THE PRACTICE OF MEDICINE IN OHIO.

SIXTY-FOURTH GENERAL ASSEMBLY, REGULAR SESSION.

Mr. Grune introduced the following bill (No. 223) providing for a State board of health, and regulating the practice of medicine:

SECTION 1. *Be it enacted by the general assembly of the State of Ohio,* That the governor, with the advice and consent of the senate, shall appoint seven physicians who shall constitute the State board of health. The persons so appointed shall be selected from the three commonly recognized schools of medicine, in the following ratio: five from the regular, one from the homeopathic, and one from the eclectic schools. The persons so appointed shall hold their offices for seven years: *Provided,* That the terms of office of the seven first appointed shall be so arranged that the term of one shall expire on the 31st day of December of each year; and the vacancies so created, as well as all vacancies occurring otherwise, shall be filled by the governor, with the advice and consent of the senate: *Provided also,* That appointments made when the senate is not in session may be confirmed at its next ensuing session.

SEC. 2. The State board of health shall have the general supervision of the sanitary interests, health, and life of the citizens of the State. They shall have charge of all matters pertaining to quarantine; and shall have authority to make such rules and regulations, and such sanitary investigations, as they may from time to time deem necessary for the preservation and improvement of the public health; and it shall be the duty of judges of the court of common pleas, sheriffs, constables, and police officers, to enforce the rules and regulations adopted by the State board of health.

SEC. 3. The State board of health shall have supervision of a system of registration of births and deaths, and have charge of the vital and mortality statistics of the State; and all physicians, coroners, and accouchement shall be required to report to the probate judge of the county in which they reside all necessary information pertaining to all births and deaths that may come under their supervision; such reports to be made within thirty days from the date of their occurrence. The provisions of this section shall not apply to cities and towns having a local board of health, but where such local boards of health do exist in cities and towns, they shall be auxiliary to, and act in harmony with, the State board of health, and shall be required to enforce a system of registration of all births and deaths that may come within their jurisdiction, and shall report the same to the State board of health within the first three days of every month. The State board of health shall be required to provide blank forms for certificates of births and deaths. The penalty for violation of this section of this act shall be a fine of ten dollars.

SEC. 4. Where any birth or death shall take place, no physician, coroner, or accouchement being in attendance, the same shall be reported to the probate judge in the county in which such birth or death shall occur within ten days from the date of its occurrence,

with the supposed cause of death, by the parent; or if none, nearest of kin—not a minor; or if none, by the resident householder where the death shall occur, under penalty, as provided in the preceding section of this act.

Sec. 5. The probate judges of the several counties in the State shall be required to keep separate books for the registration of the names and the post-office address of all physicians, coroners, and accoucheurs, for births, marriages, and deaths; said books shall always be open for inspection, without fee, and said probate judges shall be required to render a full and complete report on the first day of every month of all births, marriages, and deaths to the secretary of the State board of health, that may have been recorded by him within the previous month.

Sec. 6. It shall be the duty of the State board of health to prepare and provide such blank forms for the record of all births, marriages, and deaths they may deem proper; the said forms to be provided by the probate judges of the several counties, whose duty it shall be to furnish them to such persons as are herein required to make reports.

Sec. 7. Any person practicing medicine in any of its departments, shall possess the qualifications required by this act, viz: If a graduate in medicine, he shall present a diploma to the State board of health for verification as to its genuineness. If the diploma is found to be genuine and issued by a reputable medical college, and recognized as such an institution by the State board of health, and if the person named therein be the person claiming and presenting the same, the State board of health shall issue its certificate to that effect, signed by all the members thereof; and such diploma and certificate shall be conclusive as to the right of the lawful holders of the same to practice medicine in the State of Ohio. If not a graduate of such medical college as above designated, every person practicing medicine in this State shall present himself before the State board of health and submit himself to such examinations as the said board shall require; and if the examination be satisfactory to the said board, it shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned, except that physicians who have been engaged in the continuous practice of medicine for more than twenty years at the date of the passage of this act shall, in lieu of a diploma or examination by the members of the State board of health, present to the said board an affidavit as to the number of years they have been engaged in the practice of medicine, and the said board shall issue its certificate to such physicians without requiring an examination.

The State board of health shall from time to time hold its meetings in different sections of the State in order to accommodate applicants for certificates. All examinations for certificates shall be made directly by the State board of health.

Sec. 8. Every person holding a certificate from the State board of health shall have it recorded in a book kept for that purpose by the probate judges in the several counties in the State, and the record indorsed thereon. Any person removing to another county to practice shall procure an indorsement to that effect on the certificate from the probate judge of the county, and shall record the certificate in like manner in the county to which he removes. The fee of the probate judge for recording a certificate issued by the State board of health, to enable the holder to practice medicine, shall be one dollar.

Sec. 9. Each candidate, on presenting himself for examination, shall pay a fee of twenty-five dollars, which shall be returned to him if a certificate be refused. In case an applicant for a certificate fails to pass a satisfactory examination, the person may, in three months thereafter, appear again before the board for a second examination, which second examination shall be final. If said second examination shall be satisfactory to the board, a certificate shall be given, for which the candidate shall pay twenty-five dollars.

Sec. 10. Examination may be, in whole or in part, in writing, and shall be of an elementary and practical character, and shall embrace the general subjects of anatomy, physiology, chemistry, materia medica, pathology, pathological anatomy, surgery, and obstetrics, but sufficiently strict to test the qualifications of the candidate as a practitioner of medicine, surgery, and obstetrics.

Sec. 11. The State board of health may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, and they may revoke certificates for like causes.

Sec. 12. Any person shall be regarded as practicing medicine, within the meaning of this act, who shall profess publicly to be a physician, and to prescribe for the sick, or who shall append to his name the letters "M. D." This act shall also apply to apothecaries and pharmacists, and other persons who prescribe for the sick. This act shall not apply to commissioned officers of the United States Army and Navy and Marine Hospital services.

Sec. 13. Any itinerant vender of any drug, nostrum, ointment, or appliance of any kind intended for the treatment of disease or injury, or who shall, by writing or printing, or any other method, publicly profess to cure or treat diseases, injuries, or deformities by any drug, nostrum, manipulation, or other expedient, shall pay to the State treasurer a special tax of \$100 every month.

Sec. 14. Any person practicing medicine, surgery, or obstetrics in this State without complying with provisions of this act shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars, or by imprisonment in the county jail for a period

of not less than thirty days nor more than one year, or by both such fine and imprisonment for each and every offense; and any person filing or attempting to file as his own the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and upon conviction shall be subject to such fine and imprisonment as are made and provided by the statutes of this State for the crime of forgery.

Sec. 15. The first meeting of the State board of health shall be convened by the governor within fifteen days after he shall have appointed its members, when they shall proceed to elect one of their number president of the board. A majority of the board shall constitute a quorum. The board shall also adopt rules and by-laws for their government, subject to the provisions of this act. The board shall also elect one of their number secretary, and who shall also be the State health officer, and who shall be the executive officer of the board, and perform all the duties prescribed by the board and by this act. He shall receive a salary which shall be fixed by the board; he shall also receive his traveling and other expenses incurred in the performance of his official duties.

Sec. 16. The other members of the board shall receive no compensation for their services; but their traveling and other expenses, while employed on business of the board, shall be paid. The president and secretary shall certify all bills ordered paid by the board. Such bills shall be presented to the auditor of State, who shall draw his warrant on the treasurer for the amount.

Sec. 17. All sums of money received by the State board of health in payment for certificates for authority to practice medicine, and all fines and special taxes, collected through and by reason of this act, shall be paid into the State treasury.

Sec. 18. It shall be the duty of the State board of health to make an annual report through their president and secretary, or otherwise, in writing, to the governor of the State, on or before the first of January of each year; and such report shall include so much of the proceedings of the State board of health, and such information concerning vital statistics, and such knowledge respecting disease, and such instruction on the subject of hygiene and sanitary laws, and such regulations as govern the legitimate practice of medicine, as may be thought useful by the board of health for disseminating among the people, and with such suggestions as to legislative action as they may deem necessary.

Sec. 19. The sum of eight thousand dollars, or so much thereof as may be necessary, is hereby appropriated to pay the salary of the secretary, and to meet all the contingent expenses of the office of the board, all costs for printing, which, together with traveling and other expenditures of the members of the board in the performance of their duties, shall not exceed the sum appropriated.

Sec. 20. The secretary of state shall provide rooms suitable for meetings of the State board of health, and office room for the State health officer.

Sec. 21. This act shall take effect and be in force from and after its passage; and all laws that are in conflict with this act are hereby repealed.

QUARANTINE REGULATIONS OF WILMINGTON, N. C.

PORT OF WILMINGTON,
North Carolina, March 18, 1880.

The following quarantine regulations will be enforced for the port of Wilmington, and the penalty of \$200 for every violation thereof strictly enforced. Pilots violating the same are liable to a loss of their branch. To entitle a vessel to free pratique in the port of Wilmington, from whatever port she may come, she must show—

1st. A clean bill of health in accordance with the recommendations of the National Board of Health.

2d. She must show to the satisfaction of the Quarantine Board that no case of infectious disease has occurred on board at the port of departure, or during the passage.

3d. She must be thoroughly cleaned and disinfected, and ballast discharged at the quarantine station, and perform any other requirements that may be designated by the quarantine physician.

4th. After performing all these requirements, she may receive a permit in writing from the quarantine physician, which permit must be indorsed by the superintendent of health of New Hanover County before she will be allowed to come to the city.

5th. Vessels subject to the above regulations will be designated by notice from time to time to their pilots and others interested in commerce.

6th. The quarantine season will commence on the 1st of May and end on the 1st of November, except that when sickness shall occur on board vessels at other seasons, such vessels shall also come under the above rules.

W. G. CURTIS, M. D., Quarantine Physician.

J. C. WALKER, M. D., } Consultants.
THOS. F. WOOD, M. D., }

SANITARY REGULATIONS FOR THE PORT OF NEW YORK.

The following bill was introduced by Mr. Varnum, read twice, and referred to the Committee on Commerce and Navigation; reported favorably from said committee and committed to the Committee of the Whole:

STATE OF NEW YORK, No. 392.—IN ASSEMBLY, MARCH 5, 1880.

AN ACT in relation to the health officer for the port of New York.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Every health officer of the port of New York hereafter appointed shall receive out of the fees collected by him a salary of ten thousand dollars per annum, which amount he is hereby authorized to retain, in equal monthly installments, out of the fees now allowed him by law.

SEC. 2. No health officer for the port of New York hereafter appointed shall be permitted to receive and apply to his own use any fees or other emoluments collected or received by him, by virtue of his office, further than his actual and necessary expenses of his salary as fixed by this act. He shall render monthly returns to the comptroller of the State under oath, showing the total amount received by him for such fees, and the actual amount of his necessary expenses and disbursements, including his own salary for the month, giving a detailed and itemized account of all such expenses and disbursements, which account shall be audited by the comptroller. The balance of receipts over expenses shall, within ten days thereafter, be paid by such health officer into the State treasury, and shall be credited to the general fund.

SEC. 3. Any health officer failing to comply with any of the provisions of the second section of this act shall be deemed guilty of a misdemeanor.

SEC. 4. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed, but nothing herein contained shall be construed to limit or repeal the authority of the health officer to demand and collect in his official capacity the fees hitherto allowed him by law.

SEC. 5. This act shall take effect immediately.

SANITARY LEGISLATION IN NEW YORK.

The following bill was introduced by Mr. Astor, read twice, and referred to the Committee on Public Health; reported favorably from said committee (Mr. Mutha dissenting) and committed to the Committee of the Whole:

STATE OF NEW YORK, No. 237.—IN SENATE, JANUARY 16, 1880.

AN ACT to provide for the abatement of nuisances by boards of health of incorporated cities.

The people of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Whenever the board of health of any incorporated city in this State shall find, or be of opinion, and shall so declare, that from or by any reason of any pursuit, matter, or manufactory, situate without the limits of such city, or by reason of the nature or condition of sewerage, drainage, or ventilation of the same, or connected therewith, there is or will be injury, detriment, or danger to the life or health of inhabitants of such city, or there is or will be pollution of the air or water supply of such city, or a nuisance, injuriously affecting the same, or the inhabitants thereof, it shall be the duty of such board of health to make written application or notice to the board of health of such adjoining locality to take cognizance of, and to abate the same within thirty days after the service of such application or notice, and in the event of the neglect or refusal of such board so notified to take such action as required, within the time aforesaid, the board of health so complaining may make application to a justice of the supreme court of the judicial district, or to the county court of the county wherein such pursuit, matter, or manufactory is situated or is carried on, for relief in the premises.

SEC. 2. Upon such application the court or officer to whom the same is made, upon satisfactory proof of the substantial truth of the matter complained of, may order the persons or bodies corporate owning or carrying on such matters, or responsible therefor, or in charge or occupation of the buildings or premises used in such business, matter, or pursuit, to show cause before such court or officer, at a specified time and place, why the relief applied for should not be granted, and upon the return of such order to show cause, or the hearing thereupon, such court or officer may order the summary abatement of the matters complained of, or grant such order or future relief as shall appear to be just in the premises. The order to show cause shall be served personally upon the persons or corporations against whom the same is made, or in such other manner as shall be designated in said order by the officer granting the same.

SEC. 3. All acts or parts of acts inconsistent with the provisions hereof are hereby repealed.

SEC. 4. This act shall take effect immediately.

ABSTRACTS FROM CONSULAR REPORTS.

KINGSTON, JAMAICA.—United States Consul George E. Hoskinson reports for the month of February 143 deaths in a population of 35,000, giving an annual death-rate of 49.0; the births for the same time were 110, or at the rate of 37.7 per thousand annually. The only causes of death noted are, malarial fevers 9, typhoid fever 1, and "other contagious diseases" 9. Of the deaths, 14 were under 1 year, 31 under 5 years, 11 about 65 years of age, 6 about 75, 2 about 86, and 3 about 95 years. Of the 110 births, 72 were illegitimate. General sanitary condition of the town described as "very bad."

MATAMOROS, MEXICO.—United States Consul W. P. Sutton, in his report for the week ending February 28, remarks that small-pox prevails at Rio Grande City, Tex., and at other points up the river, on both sides. It is considered probable that the disease will reach Matamoros and Brownsville, two deaths having occurred in the last month from small-pox in the former city.

SANTANDER, SPAIN.—The population of this province is estimated at 235,300, and the report of mortality for the month of December, 1879, gives a total of 512 deaths; the annual rate was 26.1 per 1,000 of population. Of the deaths recorded, 143 were under 1 year, 43 from 1 to 5 years, 15 from 5 to 10, 32 from 10 to 20, 55 from 20 to 40, 53 from 40 to 60, and 165 over 60 years of age. Among the causes noted are, consumption, 15; brain diseases, 25; cholera infantum, 15; diarrhoea, 20; dysentery, 5; typhus fever, 4; small-pox, 4; measles, 5; scarlet fever, 2, and malarial fevers, 6.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

BURLINGTON, VT., March 23.—Dr. George M. Ockford reports that several cases of small-pox had occurred in the village of Underhill, about 16 miles east of Burlington. The disease was imported from Worcester, Mass., and so far is confined to the house in which it first appeared.

CHAFFANOOGA, TENN., March 22.—Dr. W. T. Hope writes that two sporadic cases of scarlet fever have occurred in the past month, but the disease has not spread. The town has hitherto been drained only by open ditches, but work is to be at once begun upon the construction of an ample system of brick-lined sewers. On the recommendation of the Board of Health, the city council has detailed two competent men from the police force to act as sanitary inspectors. It is their duty to make house-to-house inspections, and report all nuisances, which are required to be abated within five days after notice. The city has been very healthy during the winter.

ERIE, Pa.—Dr. E. W. Germer, health officer, states, under date of March 7, that for six years he has caused to be published weekly, in English and German papers, the name, age, nationality, and cause of death of every person dying in the city, so far as known to this authorities. This method is adopted in Germany, and Dr. Germer forwards a copy of the form used in Vienna.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The total numbers should be placed in their proper columns, and no figures placed immediately after the word total will be noted in the tables. Those who report still-births will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—All official communications to the National Board of Health should be addressed to the Secretary of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MARCH 20, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.		Consumption.	Crop.	Diarrhoeal diseases.	FEVER.					Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents and injuries.
				Representing an annual death-rate per 1,000 of—					Etiérie.	Malarial.	Scarlet.	Yellow.								
Cal	San Francisco	305,000	24	89	15.2	17	.....	.....	1	1	1	.....	12	.....	1	.....	.....	.....	3	6
	Sacramento	25,000	1	7	14.6	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	1
	Los Angeles	14,000	1	3	8.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Vallejo	7,500	1	1	6.9	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Totals.....		8,496,572	1,180	3,095	19.0	523	59	43	121	47	28	75	473	47	26	5	40	380	69	

* Boston has 370,000 white, 5,000 colored; deaths, 151 white, 5 colored. Rate per 1,000, white 21.3, colored 52.2. Lawrence, Mass., has 39,800 white, 200 colored; deaths, 18 white. Rate in table. Providence has 98,200 white, 3,800 colored; deaths, 33 white, 1 colored. Rate per 1,000, white 17.5, colored 13.7. Sung Sing has 7,250 white, 250 colored; deaths, 7 white, 1 colored. Rate per 1,000, white 50.4, colored 208.7. Reading has 40,000 white, 350 colored; deaths, 25 white. Rate in table. Wilmington, Del., has 39,000 white, 5,000 colored; deaths, 20 white, 5 colored. Rate per 1,000, white 26.7, colored 52.2. Baltimore has 343,715 white, 56,285 colored; deaths, 98 white, 41 colored. Rate per 1,000, white 14.7, colored 28.0. District of Columbia has 114,900 white, 56,000 colored; deaths, 23 white, 55 colored. Rate per 1,000, white 13.1, colored 51.5. Norfolk has 15,500 white, 9,500 colored; deaths, 6 white, 7 colored. Rate per 1,000, white 20.2, colored 38.4. Richmond has 46,000 white, 34,000 colored; deaths, 15 white, 12 colored. Rate per 1,000, white 17.9, colored 18.4. Wilmington, N. C., has 6,714 white, 10,286 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 15.5, colored 5.1. Charleston has 25,000 white, 32,000 colored; deaths, 7 white, 12 colored. Rate per 1,000, white 10.6, colored 10.6. Savannah has 17,493 white, 15,161 colored; deaths, 3 white, 10 colored. Rate per 1,000, white 8.9, colored 34.4. Augusta has 16,176 white, 10,824 colored; deaths, 4 white, 6 colored. Rate per 1,000, white 12.9, colored 24.9. Atlanta has 25,373 white, 16,175 colored; deaths, 5 white, 8 colored. Rate per 1,000, white 10.3, colored 25.8. Jacksonville has 6,000 white, 4,000 colored; deaths, 1 white, 2 colored. Rate per 1,000, white 8.7, colored 26.0. Mobile has 28,000 white, 12,000 colored; deaths, 3 white, 3 colored. Rate per 1,000, white 5.6, colored 13.9. New Orleans has 155,000 white, 55,000 colored; deaths, 54 white, 21 colored. Rate per 1,000, white 18.2, colored 20.4. Shreveport has 4,500 white, 5,000 colored; deaths, 2 colored. Rate in table. Memphis has 16,765 white, 13,954 colored; deaths, 4 white, 6 colored. Rate per 1,000, white 12.5, colored 22.4. Nashville has 26,000 white, 11,000 colored; deaths, 6 white, 10 colored. Rate per 1,000, white 12.0, colored 47.4. Chattanooga has 7,800 white, 5,020 colored; deaths, 3 white, 1 colored. Rate per 1,000, white 13.9, colored 19.4. Clarksville has 3,000 white, 3,000 colored; deaths, 1 white, 8 colored. Rate per 1,000, white 12.4, colored 120.1. Louisville has 153,125 white, 21,575 colored; deaths, 45 white, 11 colored. Rate per 1,000, white 15.4, colored 23.4. Wheeling has 28,600 white, 900 colored; deaths, 12 white, 1 colored. Rate per 1,000, white 21.9, colored 57.3. Burlington, Iowa, has 25,400 white, 600 colored; deaths, 7 white, 1 colored. Rate per 1,000, white 14.4, colored 86.9. Total white population, 1,668,411; deaths, 563; annual rate per 1,000, 17.6. Total colored population, 387,182; deaths, 243; annual rate per 1,000, 32.7.

The following reports, for the week ending March 20, are from places requiring burial permits, and having less than 5,000 population:

Brunswick, Ga., 3,000; deaths, 2; under 5 years, 1. Edgartown, Mass., 1,400; no deaths. Morgan City, La., 2,500; no deaths. Murfreesboro, Tenn., 4,000; one death. Saint Augustine, Fla., 2,500; no deaths. 2; under 5 years, 1; pneumonia 1. Shelbyville, Tenn., 2,000; deaths, 2; under 5 years, 1; consumption 1, malarial fever 1. Total population, 15,400; deaths under 5 years, 3; total deaths, 7; annual death-rate per thousand, 23.7.

The following reports, for the week ending March 20, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 5; under 5 years, 1; lung diseases 2. Allegheny, Pa., 75,000; deaths, 12; under 5 years, 6; consumption 1, diphtheria 1, enteric fever 1, pneumonia 1. Bath, Me., 10,000; no deaths. Battle Creek, Mich., 7,500; one death. Benton County, Miss., 11,000; deaths, 2; under 5 years, 1; pneumonia 1, cholera infantum 1. Boulder, Colo., 3,500; one death. Brattleboro, Vt., 6,500; deaths, 3; under 5 years, 1; pneumonia 1. Calais, Me., 5,000; croup 1. Cambridge, N. Y., 1,500; one death. Carrollton, Miss., 600; no deaths. Cedar Keys, Fla., 1,500; no deaths. Chatham, Conn., 3,000; pleuritis 1. Chico, Cal., 5,000; puerperal 1. Chillicothe, Mo., 4,750; puerperal 1. Circleville, Ohio, 6,000; deaths, 3; under 5 years, 1; consumption 1, pneumonia 1, puerperal 1. Clinton, Mich., 1,200; no deaths. Columbus, Ga., 10,000; one death. Corinth, Miss., 2,300; one death. Cumberland, Md., 12,000; consumption 1. Dallas, Tex., 20,000; consumption 1. Danbury, Conn., 9,250; deaths, 5; under 5 years, 2; lung diseases 3. Decatur, Miss., 1,000; no deaths. East Haven, Conn., 1,200; consumption 1. Fayette, Miss., 200; no deaths. Flint, Mich., 10,000; deaths, 3; consumption 1, diphtheria 1. Galesburg, Ill., no deaths; no population given. Geneva, N. Y., 6,000; deaths, 3; under 5 years, 1; consumption 2, diphtheria 1. Helena, Mont., 3,500; diphtheria 1. Hummingbird, Tenn., 500; no deaths. Iuka, Miss., 1,000; no deaths. Jefferson, Tex., 3,000; deaths, 3; under 5 years, 1; consumption 1, enteric fever 1, pneumonia 1. Jeffersonville, Ind., 11,000; no deaths. Kenosha, Wis., 5,000; deaths, 4; under 5 years, 1; diphtheria 2. Lansingburg, N. Y., 7,150; deaths, 4; under 5 years, 2; pneumonia 1, whooping-cough 1. Lebanon, Pa., 9,000; enteric fever 1. Little Falls, N. Y., 5,300; deaths, 5; consumption 2, lung diseases 2. Louisiana, Mo., 2,000; one death. Lynchburg, Va., 21,000; deaths, 11; under 5 years, 3; consumption 3, diphtheria 1, pneumonia 1. Madison, Ind., 12,000; deaths, 4; consumption 1, pneumonia 1. Marinette, Mich., 1,000; no deaths. Martinsburg, W. Va., 5,500; deaths, 2; under 5 years, 1; consumption 1, measles 1. Massillon, Ohio, 8,000; deaths, 6; under 5 years, 3; consumption 1, puerperal 1. Meridian, Miss., 5,500; malarial fevers 2. Milledgeville, Ga., 4,000; deaths, 3; under 5 years, 1; pneumonia 1. Monmouth, Ill., 6,000; deaths, 3; enteric fever 1. Mount Pleasant, Iowa, 5,000; deaths, 2. Muscatine, Iowa, 7,500;

deaths, 2; pneumonia 1. Natchez, Miss., 10,000; deaths, 2; consumption 1, pneumonia 1. Newesater, Pa., 10,000; deaths, 3. Okaloosa, Miss., 3,000; no deaths. Oshkosh, Wis., 17,000; deaths, 3; consumption 1, lung diseases 2. Painesville, Ohio, 5,000; deaths, 3. Phenixville, Pa., 6,000; deaths, 1; under 5 years, 1; diarrhoea 1, pneumonia 3. Pontotoc, Miss., 600; one death. Port Jervis, N. Y., 10,000; no deaths. Portsmouth, Va., 14,000; deaths, 7; under 5 years, 3; croup 1. Pulaski, Tenn., 2,100; consumption 1. Ripley, Miss., 1,000; no deaths. Rock Island, Ill., deaths, 6; no population given. Rockland, Me., 7,000; deaths, 2; consumption 1, puerperal 1. Springfield, Ohio, 23,000; deaths, 4; consumption 3. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths, 3, under 5 years. Summit, Miss., 2,250; no deaths. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; deaths, 2; consumption 1, pneumonia 1. Tuscaloosa, Ala., 1,000; consumption 1. Victoria, Tex., 3,500; one death. Waterbury, Conn., 16,000; deaths, 5; under 5 years, 3; consumption 1, croup 1, diarrhoea 1, scarlet fever 1, lung diseases 2. Waxahachie, Tex., 2,000; pneumonia 1. Winchester, Va., 5,500; deaths, 3; under 5 years, 1; consumption 1, croup 1. Winona, Minn., 10,000; deaths, 2; under 5 years, 1. Youngstown, Ohio, 17,000; deaths 8; under 5 years, 6; lung diseases 4, whooping-cough 2. Total population, 554,563; deaths under 5 years, 46; total deaths, 167; annual death rate per thousand, 15.7.

WEEKLY SUMMARY OF MORTALITY.

The reports for the week ending March 20 represent a total population of 8,496,572, being 113,630 more than last week. The number of deaths being 3,095, or 224 more than the previous week, the annual rate has risen from 17.9 to 19.0 per 1,000. Consumption and acute lung diseases have increased from 5.84 to 6.41, and the change is greater in lung diseases, as noted last week, when both had decreased. For this week the rate of mortality from consumption has risen from 3.19 to 3.21, increasing 3.5 per cent, while lung diseases have advanced from 2.74 to 2.90 per 1,000, being 6 per cent, higher than last week. The total of deaths from the six principal zymotic diseases is 35* this week against 351 last week, and the rate per 1,000 has only changed from 2.18 to 2.20. The following special changes are noted: Increased, diphtheria, from 0.66 to 0.74; scarlet fever, from 0.79 to 0.86. Decreased, measles, from 0.49 to 0.29; whooping-cough, from 0.29 to 0.24. Malarial and enteric fevers remain stationary at 0.17 and 0.25 per 1,000. Philadelphia and the District of Columbia report deaths from small pox, and the disease is known to exist in other places, but it appears to be generally declining in extent and fatality.

Name of hospital	Place.	Character of hospital.	Number of beds.	Patients at last report.	Comp. lun.	Group.	Diarr. diseases.	Diph. theria.	Fever, enteric.	Fever, malarial.	Fever, scarlat.	Lung disease, acute.	Measles.	Purp. partic. cases.	Small pox.	Totals.	Remaining.		
																	Admitted.	Discharged.	Died.
New York City Lunatic Asylum	Blackwell Island, N. Y.	Insane	1364	1364													6	4	1359
Indiana River State Hospital	Poughkeepsie, N. Y.	Insane	241	241													3	3	241
Madison State Hospital	Madison, N. Y.	Insane	206	206													1	1	205
Willard Asylum	Willard, N. Y.	Insane	157	157													1	1	156
State Hospital for Insane	Danville, Pa.	Insane	700	443													1	1	445
Princeton Hospital	Princeton, Pa.	Insane	600	506													1	1	507
Massachusetts Hospital for Insane	Dorchester, Mass.	Insane	600	506													1	1	507
Maryland Hospital for Insane	Catonsville, Md.	Insane	350	350													1	1	349
E. L. Asylum	Williamsburg, Va.	Insane	333	319													1	1	321
North Carolina Insane Asylum	Edenburgh, N. C.	Insane	279	279													1	1	280
Lunatic Asylum	Jackman, Me.	Insane	400	381													1	1	399
Longview Asylum	Carthage, Ohio	Insane	653	661													1	1	662
Washington Asylum for Insane	Columbus, Ohio	Insane	900	863													1	1	864
Indiana Hospital for Insane	Indianapolis, Ind.	Insane	100	100													1	1	99
Minnesota Hospital for Insane	Saint Peter, Minn.	Insane	600	600													1	1	599
State Lunatic Asylum	Fulton, Mo.	Insane	575	575													1	1	574
Insane Asylum of California	Stockton, Cal.	Insane	1116	1117													1	1	1116

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National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, APRIL 10, 1880.

[No. 41]

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

ALDIE, LOUDOUN COUNTY, VA.—Under date of March 30, Dr. Jesse Ewell, jr., writes with reference to the suggestions of Dr. James L. Cabell concerning the registration laws of Virginia (see BULLETIN, page 282):

Dr. Ewell states that in four years of practice he has never been called on by any official person for a list or record of births or deaths, nor was he aware of the existence of any State law requiring such record of physicians until he read the extracts given by Dr. Cabell. In Loudoun County the proposal to require reports of deaths from the clergy would fail to accomplish the object in view, as there are, perhaps, twenty burials without the services of a minister to one death without an attending physician. In that locality, at least, the duty of registration and reporting must devolve upon the physicians, who should receive a certain compensation for each birth and death reported to the proper authorities.

Dr. Cabell indorses this suggestion, but would add a penalty for failure to report, when proved, in any case; and, where burial permits are not required, would require reports of deaths from both physicians and clergymen, allowing to each a small remuneration.

FORT RINGGOLD, TEX.—Under date of March 22, Dr. J. R. Smith, U. S. A., forwards the following report concerning small-pox in that vicinity:

The disease has prevailed for four months past in Rio Grande City, a place of about 3,000 inhabitants, situated only half a mile from the post. The first case, early in December, was that of a child brought from Camargo, Mex., and the only survivor of a family the other members of which had died of small-pox at that place. At the same time the disease appeared at Garcia's Rancho, about one mile and a half from Rio Grande City. The disease is so common in this region that it did not attract special attention at the post until early in February, when communication with the town was much restricted. March 1, a strict quarantine was established and enforced for two weeks; it was then modified, and on the 15th was removed, as the town had then quarantined against Camargo. Only one case occurred at the post. Private Roberts was taken March 1, and returned to duty March 15. Thorough vaccination and revaccination was enforced in the garrison. About 143 cases and 47 deaths were reported in Rio Grande City and vicinity. Camargo is a town of about 5,000 inhabitants, four miles from the post; the disease appeared there last spring, reached its height in October, and up to this time it is estimated that 433 cases and 172 deaths have occurred. The common people on both sides of the river have a superstition against vaccination; they do not practice inoculation, but often expose their children purposely to infection. The poorer classes seldom have medical attention, and among them the proportion of deaths is about 75 per cent. of the cases; among those attended by physicians the mortality is about 10 per cent. The disease is reported to be rapidly subsiding in Camargo, and at this date there are only a few convalescent cases in Rio Grande City; no new cases have appeared for fifteen days. Dr. Smith incloses copies of the quarantine orders issued at the post, and by the county authorities.

MINSTER, OHIO, April 3.—Dr. E. F. Wells states that at Berlin and Egypt, two neighboring places, a penicill but not very fatal form of pneumonia prevails. It is confined to narrow limits, but within these almost every family furnishes one or more cases.

NEW JERSEY.—The State board of health sends a circular marked A, addressed to farmers and dealers in stock, preliminary to an investigation by the board into the existence, extent, and locality of contagious diseases among animals in the State. Pleuro-pneumonia and pneumo-enteritis (hog cholera) are described, and plain directions given for treatment and for prevention of contagion. After due notice the board proposes to enforce rigorously the law provided for dealing with such diseases.

NEW ORLEANS, LA., March 21.—Dr. F. W. Reilly incloses a copy of a letter addressed to the police jury of the parish of Assumption, notifying them of the inspection directed by the National Board of Health to be made in that parish, and in those of La Fourche and Saint Mary, in which yellow fever occurred last year. The objects of the inspection are fully set forth, and the co-operation of the authorities is requested.

TUXPAN, MEXICO.—Under date of March 16, Dr. A. M. Boyd gives the following account of this city and vicinity, with a report of deaths for the months of January and February:

The city of Tuxpan is situated on the north bank of the Tuxpan River, about seven miles from its mouth, one hundred and ten miles north of Vera Cruz, and the same distance south of Tampico. The latitude is 20° 50' N., and the longitude 97° 17' W. of Greenwich; the town is only about fifteen feet above the level of the Gulf, and has a population of 7,156. The country near the Gulf is low and sandy, with many lakes and lagoons communicating with the river and the Gulf. Farther inland the country becomes much more fertile. The bar will only admit vessels drawing seven feet, but inside the river is deep and navigable for thirty miles, to the head of tide-water; the rise and fall of tide here is about thirty inches. The water near the coast and for thirty miles back is very brackish, being impregnated with soda and other saline substances. The city is governed by a board of aldermen, who annually appoint a board of health, composed of seven members; one of these is a physician, who acts as health officer of the port. A record of deaths is kept, and burial permits are required. The sanitary regulations require the streets to be kept free from all decomposing matters; garbage, dead animals, &c., are collected daily and thrown into the river. Privies and cess-pools are required to be covered with fresh lime whenever they become foul and offensive. The slaughter-pen is outside of the city limits during the hot months, and all offal is immediately destroyed. Cisterns are used by most of the better class of people; some are sunk in the earth, but mostly they are constructed of wood and above ground. The temperature in the hot season rarely exceeds 92°, being moderated by the land and sea breezes; in the winter it is seldom below 46°. My observations for some years past give the following mean temperature for each month: January, 74.3°; February, 64.5°; March, 79.5°; April, 78.3°; May, 75.2°; June, 82.3°; July, 80.3°; August, 81.5°; September, 76.5°; October, 66.2°; November, 62.1°; December, 59.1°; mean for the year, 73°. The seasons are divided into the wet and the dry, the former beginning about the first of June and ending in September or October; the latter comprising the remainder of the year. During the past two years yellow fever has raged as an epidemic at Tampico, but has not been transported to this city, though the intercourse between the two places has been constant and unrestricted. A few deaths occurred here of persons already sick with the fever on leaving Tampico, but in no instance has the disease spread to residents of this city; the same may be said of the port of Vera Cruz.

Having resided at Tuxpan for thirteen years, I have witnessed a severe epidemic of yellow fever in 1753, and a mild one in 1777; only these two have occurred here in more than twenty years. The prevailing diseases are malarial fevers, diarrhoea, measles, small-pox, and lung diseases; diphtheria only occasionally appears. Syphilis is very prevalent among all classes, and is greatly neglected as to treatment, causing indirectly many deaths, especially among the low class of people. During the month of January there were twenty-eight deaths from all causes; ten from malarial fevers and two from small-pox; annual death-rate, 16.7 per thousand. In February, there were thirty-six deaths—ten from malarial fevers, five from small-pox, and two from measles; annual death-rate, 60.1 per thousand of population.

VIRGINIA CITY, NEV.—Dr. E. B. Harris, under date of February 27, incloses a copy of a petition from physicians of that city asking the authorities to relieve them of the duty of making monthly reports of births and deaths to the board of health, on the ground that the ordinance also required them to report all deaths to the coroner. The board of aldermen amended the ordinance as requested, by repealing certain sections. Upon this action, the editor of a local paper pertinently inquires what provision remains for the registration of births, and points out the importance of such record being strictly kept.

days; frost on 44 days; rainfall, 2.5 inches. Deaths in February, 1931: white, 180 colored; annual rate per 1,000, white 20.3, colored 38.6. Marriages, 52 white, 26 colored. Births, 176 white, 166 colored; annual rate per 1,000, white 18.5, colored 35.5. Still-births, 8 white, 16 colored. Mean temperature for February 41.9; highest observed, 54; lowest, 22.5; lowest on the 5th. Greatest daily range, 29.4 on the 14th; least, 1.0 on the 1st and 2nd. Prevailing winds, E and S. Prevailing winds, south; greatest velocity, 38 miles N.W. on the 23d. Rain or snow on 10 days; frost on 6 days; rainfall 1.71 inches.

Norfolk, Va.—Deaths in February, 23 white, 25 colored; annual rate per 1,000, white 17.8, colored 31.6. Still-born, 2 white, 2 colored. Causes of death, in annual rate per 1,000 of population: Consumption, white 4.64, colored 5.05; diphtheria, white 3.87, colored 5.05; acute lung diseases, white 1.55, colored 3.79. Mean temperature for the month, 48°; highest, 78°, lowest 22°; prevailing winds, S.W.; rainfall, 1.67 inches.

Petersburg, Va.—White population, 12,000, colored 13,000. Deaths in February, 14 white, 25 colored; annual rate per 1,000, white 14.0, colored 27.1. Deaths in March, 11 white, 49 colored; annual rate per 1,000, white 11.0, colored 53.1. Consumption and lung diseases, white 2, colored 11.

Columbia, S. C.—All deaths in February were colored; relative populations not given; still-born 1.

Jacksonville, Fla.—Total deaths for the six months, 51; white 14, colored 40; annual rate per 1,000, white 14.7, colored 20.0. Of the 14 decedents, 22 were non-residents. Temperature in July, highest 104.9, lowest 68°; in December, highest 72°, lowest 36; mean for July, 83.4 for December, 62.6; for the six months, 73.5. Prevailing wind, S. S. W. in July, S. out of the six; maximum velocity varying only from 20 to 26 miles per hour, in July, 20.3, in September, least, 68.9, in July. Greatest rainfall, 8.39 inches, in August; least, 0.46, in December; total, 33.22 for six months.

Chattanooga, Tenn.—Deaths in January, 5 white, 9 colored; annual rate per 1,000, white 7.6, colored 21.3. Deaths in February, 11 white, 17 colored; rates, 16.7 white, 40.6 colored. Annual rate per 1,000 of population of deaths from consumption and lung diseases for the two months, white 3.05, colored 11.9.

Memphis, Tenn..—Deaths in February, 41 white, 40 colored: annual rate per 1,000, white 29.4, colored 31.1. Births reported, 19, but the registration very incomplete.

Nashville, Tenn.—Deaths in February, 37 white, 42 colored; annual rate per 1,000, white 17.0, colored 45.8. Consumption and acute lung diseases caused 15 deaths in each race; annual rates per 1,000 of population, white 6.33, colored 16.4. Highest daily mean temperature, 66.2 on the 12th; lowest, 29, on the 2d and 4th; highest temperature observed, 71, on the 25th; lowest, 22, on the 4th. Prevailing winds, south; rain or snow on 13 days, rainfall 34.37 inches.

Toledo, Ohio.—Still-births, 5.

Richmond, Ind..—Still-births, 2.

Chicago, Ill.—From February there were 17 still-births and 19 premature births. From diseases not noted in the table, there were from diseases of the nervous system 123 deaths, heart diseases 28, digestive system 42. Mean temperature, 35.1; highest daily mean, 53° 2, on the 26th; lowest, 16° 2, on the 4th. Highest temperature observed, 63°; lowest, 12°. Prevailing winds, S. W.; greatest velocity, 32 miles, on the 2-4. Rain or snow on 15 days. Rainfall, 2.91 inches.

Midlake, Wis.—In January there were 13 still-births and 6 premature births. Mean temperature, 34° F.; highest daily mean, 47°-2, on the 3d; lowest, 18°-5, on the 25th. Highest temperature observed, 57°-0, on the 11th; lowest, 11°-0, on the 23d and 29th. Greatest daily range 28°-0, on the 11th; least, 1°-0, on the 23d. Mean daily range, 14°-8. Prevailing winds, S. W.; greatest velocity, 43 miles W. S. W., on the 20th. Rain or snow on 15 days; frost on 8 days. Rainfall, 2.47 inches. Elevation above the sea, 935 feet. In February there were 13 still-births and 4 premature births. Mean temperature, 28°-6; greatest daily mean, 48°-5, on the 24th; lowest, 11°-0, on the 1st. Greatest daily range, 37°-0, on the 11th; least, 5°-0, on the 27th. Highest temperature observed, 57°-0, on the 11th; 25th, and 25th; lowest, 1°-0, on the 1st. Prevailing winds, west; greatest velocity, 47 miles, west, on the 25th. Rain or snow on 14 days; frost on 3 days. Rainfall, 1.49 inches.

Minneapolis, Minn..—In February there were 8 still-births and 1 premature birth; if these are deducted, the deaths for the month were 37, and the annual death-rate only 8.2 per 1,000. Births, 53; or 44 if still and premature births are deducted, giving an annual birth-rate of 9.77 per 1,000 of population.

Keokuk, Iowa.—Deaths in February, 16 white, 3 colored; annual rate per 1,000, white 12.8, colored 45.0. Mean temperature, 36.7; highest, 67; lowest, 9. Prevailing winds N.W. Rain on 7 days; rainfall, 1.24 inches.

Monthly reports are received from Elmira and Dunkirk, N. Y., Wheeling, W. Va., Selma, Ala., and Keokuk, Iowa, too late for insertion in this number of the BULLETIN.

HAVANA, CUBA.—Advices of April 1 report that during the month of March there were 24 deaths from yellow fever, 17 of which occurred in the first 20 days of the month. The weather has been lately cool and windy, which has had a tendency to check the disease.

ABSTRACTS FROM CONSULAR REPORTS.

MARACAIBO, VENEZUELA, March 1.—United States Commercial Agent E. H. Plumacher makes the following report of his district :

The absence of records of vital and mortality statistics and of instruments of precision prevents the filling of the reports according to the forms supplied. As to the temperature, the thermometer ranges from 80 to 98 in the shade, and the climate is very enervating. The health of the port has improved of late, and among the shipping but few deaths have occurred, only three being American sailors. The population is estimated at 27,000, composed mostly of a mixed race of negroes and Indians with Spanish blood. The foreign colony consists of Spanish, Italian, French, and German, with a few English and American families. The natives are mostly crowded into narrow streets and close habitations, and suffer much from dysentery, gastric and malarial fevers, and from syphilis, which often proves fatal. Skin diseases are common, and especially leprosy, in most hideous forms. The victims of this disease are ordered by the authorities to be isolated on an island known as Lazarus Island, but many succeed in evading the law and remain concealed in the town. Probably not more than two-thirds of those affected are removed to the island. In the mountain region, south of Lake Maracaibo, goitre is prevalent and cretinism is not uncommon, as is observed in the Swiss and Tyrolean mountains. The common zymotic diseases of other countries are found here, with the exception of Asiatic cholera and small-pox. Dr. Cowdie, an English physician, states that in 20 years of practice here he has never seen either of those diseases. Consular officers being directed to inquire into all matters concerning the health of crews and the sanitary condition of vessels, I have suggested that such restrictions should be imposed upon the shipment of hides in bad condition. Captains of vessels inform me that they often ascribe sickness and other injuries to some other articles of cargo, especially coffee and cocoa, and evidently to the interest of the merchants themselves that the shipment of bad hides should be prohibited, since the loss falls ultimately upon them. Vessels leaving this port are now required to take a certificate of the sound condition of hides on board, verified by my personal inspection. A regulation requiring the consul or other officer to inspect all hides and skins before shipment would certainly result in great commercial as well as sanitary benefit.

MONTEVIDEO, URUGUAY.—Under date of February 24, United States Consul A. L. Russell gives the following account of the yellow fever on board the United States Ship *Marion*:

The United States Ship *Marion* arrived at Rio de Janeiro, Brazil, on the 1st instant, and, after coasting, sailed for Valparaiso, Chili, on the 6th instant. On the fifth day a sea yellow fever appeared on board, and on the 18th she arrived at the "enter roads" of this port, reported eleven cases, and signaled for medical and medical stores. She was immediately ordered by the port authorities into quarantine at Ilhas Island, twelve miles from Montevideo. On the following day the death of ordinary seaman Rogers was telegraphed to the port authorities. Up to this date there has been an increase of eight cases and one death, that of Lieut. John P. Wallis. Among the sick are five officers—Surgeon H. I. Babin, Lieut. J. P. McLaughlin, Midshipmen Sears and Wike, and Passed-Assistant Engineer J. G. Brosnahan. The sick are all ashore and reported doing well. The weather is cool and favorable.

The constant and vigilant supervision and rigid enforcement of our quarantine regulations, it is confidently believed, will secure to this port immunity from contagion. Thus far clean bills of health have been regularly granted.

NASSAU, BAHAMAS.—The Department of State forwards a communication dated March 6, from United States Consul Thomas J. McLean, jr., giving a detailed account of the fever which appeared in Nassau in September, 1879, and which was at first reported as yellow fever. The subsequent history of the disease, which has now been proved to be typhoid fever, is that it was not yellow fever, and that the epidemic was not due to the importation of the germ. All reports as to the existence of contagiousness upon the island of New Providence are unfounded. See official report of board of health of Nassau, B. M. L. H. N. No. 37, page 285.

VIÑA DEL CIEZO, MARUQUE.—United States Consul, S. T. Townbridge, reports 113 deaths for the month of January. Only two were from yellow fever, and no other contagious disease is noted. The population being 15,550, the annual death-rate was 8.55 per 1,000. The authorities keep the streets clean enough, but the houses are generally damp, ill ventilated, and filthy, while the poorer classes suffer from lack of food. Consumption and lung diseases prevail, especially among the lower classes. Mean temperature for the month, 79.46.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MARCH 27, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of age.	Consumption.	Croup.	Diarrhoeal diseases.	FEVER.					Lung diseases, acute.	Measles.	Puerperal diseases.	Small pox.	Whooping cough.	All zymotic diseases.	Accidents and injuries.
									Diphtheria.	Enteric.	Malarial.	Scarlet.	Yellow.							
Cal	San Francisco	305,000	19	98	16.7	14	.....	.....	12	1	2	.....	.....	21	1	12	.....	2	12	12
	Sacramento	25,000	.....	11	22.9	2	.....	.....	1	.....	1	.....	.....	.....	.....	12	.....	.....	3	1
	Los Angeles	14,000	.....	8	29.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Vallejo	7,500	.....	1	6.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals		8,542,016	1,255	3,250	19.8	491	86	56	116	43	40	55	.....	507	63	45	1	55	46	77

* Portland, Me., has 36,000 white, 400 colored; deaths, 18 white. Rate in table. Boston has 370,000 white, 5,000 colored; deaths, 144 white, 4 colored. Rate per 1,000, white 20.3, colored 41.7. Lawrence, Mass., has 39,800 white, 200 colored; deaths, 10 white. Rate in table. Providence has 98,200 white, 3,800 colored; deaths, 51 white, 3 colored. Rate per 1,000, white 27.6, colored 41.2. Trenton has 40,000 white, 550 colored; deaths, 14 white, 7 colored. Rate per 1,000, white 18.2, colored 149.1. Wilmington, Del., has 39,000 white, 5,000 colored; deaths, 17 white, 2 colored. Rate per 1,000, white 23.7, colored 20.6. Baltimore has 343,715 white, 56,285 colored; deaths, 97 white, 42 colored. Rate per 1,000, white 11.6, colored 28.9. District of Columbia has 114,000 white, 56,000 colored; deaths, 21 white, 37 colored. Rate per 1,000, white 9.6, colored 31.7. Norfolk has 15,500 white, 9,500 colored; deaths, 5 white, 5 colored. Rate per 1,000, white 16.8, colored 27.4. Richmond has 46,000 white, 34,000 colored; deaths, 11 white, 22 colored. Rate per 1,000, white 12.4, colored 23.7. Wilmington, N. C., has 6,714 white, 10,250 colored; deaths, 1 white, 5 white, 34,000 colored; deaths, 11 white, 22 colored. Rate per 1,000, white 22.9, colored 31.0. Charleston has 25,000 white, 32,000 colored; deaths, 11 white, 19 colored. Rate per 1,000, white 7.7, colored 25.3. Augusta has 16,176 white, 10,824 colored; deaths, 4 white, 6 colored. Rate per 1,000, white 12.9, colored 28.9. Atlanta has 25,373 white, 16,175 colored; deaths, 2 white, 9 colored. Rate per 1,000, white 4.1, colored 29.0. Jacksonville has 6,000 white, 4,000 colored; deaths, 3 white. Rate in table. Mobile has 28,000 white, 12,000 colored; deaths, 5 white, 4 colored. Rate per 1,000, white 8.3, colored 17.4. New Orleans has 155,000 white, 55,000 colored; deaths, 65 white, 44 colored. Rate per 1,000, white 21.8, colored 41.7. Shreveport has 4,500 white, 5,000 colored; deaths, 1 white, 2 colored. Rate per 1,000, white 11.6, colored 20.8. Memphis has 16,765 white, 13,954 colored; deaths, 2 white, 8 colored. Rate per 1,000, white 6.2, colored 29.9. Nashville has 26,000 white, 11,000 colored; deaths, 7 white, 5 colored. Rate per 1,000, white 14.0, colored 23.7. Chattanooga has 7,900 white, 5,020 colored; deaths, 2 white, 3 colored. Rate per 1,000, white 13.3, colored 31.1. Clarksville has 3,000 white, 3,000 colored; deaths, 3 colored. Rate in table. Louisville has 153,125 white, 21,875 colored; deaths, 34 white, 16 colored. Rate per 1,000, white 15.0, colored 38.1. Wheeling has 28,000 white, 900 colored; deaths, 19 white. Rate in table. Jacksonville, Ill., has 14,500 white, 500 colored; deaths, 3 white, 1 colored. Rate per 1,000, white 10.8, colored 104.3. Burlington, Iowa, has 25,400 white, 600 colored; deaths, 4 white. Rate in table. Keokuk has 13,000 white, 800 colored; deaths, 3 white. Rate in table. Total white population, 1,693,168; deaths, 561; annual rate per 1,000, 17.3. Total colored population, 373,409; deaths, 241; annual rate per 1,000, 33.7.

The following reports, for the week ending March 27, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 3,980; 1 death under 5 years, whooping cough. Brunswick, Ga., 4,000; no deaths. Edgartown, Mass., 1,400; no deaths. Morgan City, La., 2,500; no deaths. Murfreesboro, Tenn., 3,500; no deaths. Nantucket, Mass., 3,000; deaths, 2; consumption 1, old age 1. Saint Augustine, Fla., 2,500; consumption 1. Shelbyville, Tenn., 2,000; no deaths. Total population, 22,880; deaths under 5 years, 1; total deaths, 4; annual rate per thousand, 9.1.

The following reports, for the week ending March 27, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 4; under 5 years, 1; consumption 1, lung disease 1. Allegheny City, Pa., 75,000; deaths, 14; under 5 years, 7; consumption 2, diarrhoea 1, malarial fever 1, pneumonia 2. Bath, Me., 10,000; deaths, 3; consumption 1, pneumonia 1, scarlet fever 1. Battle Creek, Mich., 7,500; no deaths. Benton County, Miss., 11,000; consumption 1. Boulder, Colo., 3,500; no deaths. Cambridge, N. Y., 1,900; deaths, 2; pneumonia 1. Carrollton, Miss., 600; no deaths. Cedar Keys, Fla., 1,500; no deaths. Chatham, Conn., 3,000; no deaths. Chillicothe, Mo., 4,750; no deaths. Columbus, Ga., 10,000; suicide 1. Corinth, Miss., 2,300; deaths, 4; consumption 1, malarial fever 1. Crystal Springs, Miss., 1,000; no deaths. Cumberland, Md., 12,000; deaths, 2; under 5 years, 1; consumption 1. Dallas, Tex., 20,000; deaths, 14; under 5 years, 2; consumption 1, diarrhoea 1. Decatur, Miss., 1,000; no deaths. East Haven, Conn., 1,200; no deaths. Fairfield, Conn., 4,000; deaths, 2; pneumonia 1. Fayette, Miss., 300; no deaths. Greenville, Ala., 4,500; no deaths. Huntington, Pa., 4,500; deaths, 2; enteric fever 1, old age 1. Huntington, Tenn., 850; no deaths. Indianola, Tex., 900; no deaths. Inka, Miss., 1,000; no deaths. Jefferson, Tex., 3,000; no deaths. Jeffersonville, Ind., 11,000; deaths, 4; pneumonia 1, old age 3. Kenosha, Wis., 5,000; consumption 1. Lansingburgh, N. Y., 7,150; deaths, 4; consumption 2, pneumonia 1. Lebanon, Pa., 9,000; deaths, 9; under 5 years, 3; consumption 5, enteric fever 1. Little Falls, N. Y., 5,900; deaths, 2; consumption 1. Louisiana, Mo., 3,200; deaths, 2; consumption 1. Lynchburg, Va., 21,000; deaths, 13; under 5 years, 3; consumption, 3, enteric fever 1, pneumonia 1. Madison, Ind., 12,000; deaths, 2; lung disease 1, malarial fever 1. Marquette, Mich., 4,000; no deaths. Meridian, Miss., 5,000; one death. Milfordville, Ga., 4,000; old age 1. Mount Pleasant, Iowa, 5,000; consumption 1. Muscatine, Iowa, 7,500; deaths, 3; under 5 years, 1; consumption 1, croup 1. Natchez, Miss., 10,000; deaths, 4; pneumonia 1. Nebraska City, Neb., 5,200; consumption 1. Okolona, Miss., 3,000; no deaths. Oshkosh, Wis., 18,000; deaths, 2; under 5 years, 1; old age 1; diarrhoea 1. Painesville, Ohio, 5,000; deaths, 3; under 5 years, 1; consumption 1, malarial fever 1. Phenixville, Pa., 6,000; no deaths. Pontotoc, Miss., 600; no deaths. Port Jervis, N. Y., 10,000; deaths,

2; diphtheria 1. Portsmouth, Va., 14,000; deaths, 8; under 5 years, 3; consumption 1, diarrhoea 2, diphtheria 1. Pulaski, Tenn., 2,100; deaths, 2; under 5 years; whooping cough 1. Ripley, Miss., 1,000; no deaths. Rock Island, Ill., deaths, 3; no population given. Rockland, Me., 7,000; deaths, 3; under 5 years, 1; pneumonia 1. Springfield, Ohio, 23,000; deaths, 9; under 5 years, 1; consumption 5. Starkville, Miss., 1,100; no deaths. Steubenville, Ohio, 15,500; deaths, 6; under 5 years, 2. Tampa, Fla., 1,200; one death, under 5 years. Titusville, Pa., 9,000; deaths, 4; under 5 years, 2; pneumonia 1. Tuscaloosa, Ala., 4,000; one death, under 5 years. Victoria, Tex., 3,000; one death. Waterbury, Conn., 16,000; deaths, 10; under 5 years, 5; croup 1, scarlet fever 1, pneumonia 1. Watertown, N. Y., deaths, 3; no population given. Waynesboro, Miss., 500; no deaths. Winchester, Va., 5,500; deaths, 1. Winona, Minn., 11,786; deaths, 4; under 5 years, 1; consumption 1, enteric fever 1, pneumonia 1. Xenia, Ohio, 7,500; deaths, 4; consumption 2, pneumonia 1, old age 1. Youngstown, Ohio, 17,000; deaths, 3; under 5 years, 1; lung diseases 2. Total population, 481,100; deaths under 5 years, 40; total deaths, 145; annual rate per thousand, 15.9.

MISCELLANEOUS.

DECATUR, IOWA.—A tabulated report of births and deaths is made, from July 1, 1879, to February 29, 1880. During these 8 months the total number of deaths was 141, and the annual death-rate 7.05 per 1,000, estimating the population at 30,000. There were, in the same period, 354 births, giving an annual birth-rate of 17.7 per 1,000; all the births but one were white; in 4-3 both parents were of foreign nativity, and in 118 both were native. In 41 the father only, and in 12 the mother only was foreign-born. Of the deaths, 101 were from zymotic diseases: scarlet fever 23, variola 10, diphtheria 13, enteric fever 6, puerperal fever 2, croup 12, and whooping cough 5. Consumption caused 13 deaths, lung diseases 16; annual rate for both, 1.35 per 1,000. Diarrhoeal diseases gave 11 deaths, and diseases of the nervous system 14. The mean temperature for July was 72.1, and for December, 15.5. The rainfall for the year was 33.92 inches; greatest, 6.75, in April; least, 0.93, in October.

PENSACOLA, FLA.—The following notice of quarantine is dated March 26:

All vessels arriving from ports in South America and all vessels from the Island of Cuba, and from Mexico, or from ports where yellow fever existed at the date of sailing, shall, on arrival, be taken by the pilot in charge, and anchored at Quarantine Bay, Deer Point. The said vessel shall display her colors at half-mast at the fore until boarded by the city physician and permitted to communicate with the city.

The limits of quarantine station will be the same as for the season of 1879, and the same duties will be required of pilots boarding vessels from ports above described.

GEO. H. O'NEAL, Mayor.

Name of hospital.

[illegible]

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Smallpox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.			
1879-80.																		
Vancouver's Island.	Victoria.	5,000	Mar. 20	1	10.4													42
Canada.	St. John's.	5,000	Mar. 27	1	10.4													33
Bermuda.	Hamilton.	14,867	Mar. 23	2	7.1													65.2
Do.	do.	14,867	Mar. 28	2	7.1													66.8
Cuba.	Havana.	195,437	Mar. 6	134	33.8													76
Do.	do.	195,437	Mar. 20	135	36.0													74
Do.	do.	195,437	Mar. 27	129	34.4													79
Mauritius.	Port Louis.	64,710	Feb. 1	40	32.3													77.7
Do.	do.	64,710	Feb. 8	37	29.8													76.9
Do.	do.	64,710	Feb. 15	35	28.2													77
Do.	do.	64,710	Feb. 22	34	25.4													77.9
Guacloupe.	Point a Pitre.	22,919	Feb. 29	15	34.1													80.6
Mexico.	Acapulco.	3,500	Feb. 28	6	89.4													84
Do.	do.	3,500	Mar. 6	9	134.2													85.8
Do.	Matamoros.	16,000	Mar. 20	6	19.5													57.8
Brazil.	Rio de Janeiro.	320,000	Feb. 14	302	49.2													21
Do.	do.	320,000	Feb. 21	361	58.8													18
Do.	do.	320,000	Feb. 28	357	58.1													11
Ireland.	Belfast.	58,000	Mar. 13	111	25.2													45
Do.	Dublin.	314,656	Mar. 13	220	36.4													20
Scotland.	Dundee.	155,000	Mar. 13	83	57.9													5
Do.	Glasgow.	589,598	Mar. 13	298	26.3													28
Do.	Leith.	58,000	Mar. 20	27	24.3													48.2
England.	London.	3,664,149	Mar. 13	1,442	29.5													191
Do.	Liverpool.	444,656	Mar. 13	235	22.5													18
Do.	Bristol and Clifton.	213,500	Mar. 13	113	27.6													10
Do.	Newcastle.	146,948	Mar. 14	60	21.3													3
France.	Havre.	92,881	Mar. 13	56	33.7													47.8
Do.	Paris.	1,988,896	Mar. 11	1,277	33.4													85
Do.	do.	1,988,896	Mar. 18	1,251	32.8													87
Do.	Lyons.	342,815	Mar. 6	232	33.8													
Do.	Renon.	104,902	Mar. 20	64	31.8													
Switzerland.	Zurich.	22,403	Mar. 13	12	28.3													2
Holland.	Rotterdam.	150,378	Mar. 20	70	26.3													6
Germany.	Brunswick.	74,138	Mar. 13	30	21.1													
Do.	Breslau.	465,171	Mar. 13	166	24.4													23
Do.	Berlin.	1,087,500	Mar. 6	488	23.3													18
Do.	Barmen.	95,000	Mar. 13	51	28.5													45
Do.	Mannheim.	50,500	Mar. 20	25	23.8													5
Belgium.	Brussels.	165,171	Mar. 13	66	24.4													10
Saxony.	Leipsic.	150,236	Mar. 13	92	31.7													7
Do.	Dresden.	218,000	Mar. 6	95	22.7													11
Bavaria.	Nuremberg.	160,000	Mar. 6	57	29.3													2
Denmark.	Copenhagen.	235,241	Mar. 9	99	22.1													16
Hungary.	Buda Pesth.	97,881	Mar. 20	51	23.2													7
Austria.	Trieste.	127,873	Feb. 28	162	41.6													6
Do.	do.	127,873	Mar. 6	88	35.9													12
Do.	Vienna.	746,245	Mar. 13	455	31.8													1
Hungary.	Panda Pesth.	97,881	Mar. 20	51	23.2													3
Do.	do.	327,788	Mar. 6	248	40.2													12
Russia.	Warsaw.	326,793	Mar. 6	192	29.8													3
Sweden.	Stockholm.	169,429	Mar. 6	79	25.5													3
Spain.	Madrid.	284,000	Mar. 13	8	2.4													1
Do.	do.	19,000	Feb. 22	10	27.4													8
Do.	do.	19,000	Feb. 29	11	30.2													10
Do.	do.	19,000	Mar. 7	9	24.7													13
Do.	do.	19,000	Mar. 13	18	49.4													10
Africa.	Tripoli.	20,000	Mar. 13	6	13.7													1
Cape Colony.	Cape Town.	35,000	Mar. 1	24	33.8													1
Seychella Islands.	Mahé.	8,934	Dec. 27	4	23.4													1
Do.	do.	8,934	Jan. 3	2	11.7													1
Do.	do.	8,934	Jan. 10	3	17.5													1
Do.	do.	8,934	Jan. 17	2	11.7													1
Japan.	Kobe.	11,496	Feb. 14	11	48.0													1
Do.	do.	11,496	Feb. 21	10	43.7													1
Do.	do.	11,496	Feb. 28	9	39.2													1

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of five cents per copy. Notice of at least one week should be given when a large number is required.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

National Board of Health

BULLETIN.

VOL. I.] WASHINGTON, D. C., SATURDAY, APRIL 17, 1880.

[No. 42.]

REPORT ON THE WATER-SUPPLY OF NEW ORLEANS AND MOBILE.

[By CHARLES SMART, M. D., Assistant Surgeon U. S. Army.]

Under date of April 4, 1880, Dr. Smart submits the following report of an investigation into the character of the water-supply of the cities of New Orleans, La., and Mobile, Ala., undertaken in accordance with instructions from the executive committee of the National Board of Health, dated February 7, 1880:

The city of New Orleans is supplied by rain-water collected and stored in cisterns, by Mississippi water furnished from the water-works, and by a few shallow wells. The principal source is that first mentioned. It is preferred by the citizens as purer and less turbid than the Mississippi water, and as free from those surface and soil impurities which are liable to pollute the wells. It is believed that the city owes its immunity from typhoid fever to the freedom of the cistern supply from sewage infiltration.

The cisterns are constructed of cypress wood, and vary in size from 500 to 60,000 (Morgan Depot) gallons. The usual capacity of the dwelling-house cistern is about two thousand gallons. They are raised a few feet from the ground, and their contents are protected by a lid or cover. Some are placed under the shade of a balcony; a few have a special roof over them; but the majority have only such protection from the rays of the sun as is afforded by their position against the house-walls. Many, especially in the older parts of the city, are situated in unventilated inclosures which are rank with the emanations from nuclear privies.

The rain-water shed from the house-roof carries with it into the cistern the soot and condensed ammoniacal vapors of coal combustion, the infinity of debris, organic and inorganic, which constitutes the dust of a large city, together with more massive fragments, as of dead insects, and decaying leaves, &c. After a few days these various matters settle, forming a soft black putrescent sediment, and leaving the supernatant water comparatively clean and pure. But every succeeding rain-fall not only increases the quantity of this sediment, but, by its inflow, stirs up that which had already accumulated, rendering the water impure until sedimentation is again accomplished. As time passes the sediment increases, and the water becomes unfit for use after each rain fall. These conditions are aggravated in the dry season when the water is low in the cistern and the quantity of sediment is relatively much increased.

As a number of the cisterns which were examined had not been cleaned out in many years, some observations were made on the rate of increase of the sedimentary layer to determine the proper interval between successive cleanings. Dr. DeLothe, U. S. A., undertook these observations, and by careful soundings in fifteen cisterns, determined the rate of deposit in the average cistern at one inch per year. The rate as thus given corresponds with the experience of individuals engaged in the cistern-cleaning business.

To ascertain the character of the city dust which is washed into the cisterns, a quantity was obtained from some open upper rooms in a public building which had not been cleaned in several years. This gave 47.2 per cent. of moisture, 34 of matter destroyed by heat, and 18.5 of mineral residue. Of the dry dust 11 per cent. was dissolved by maceration in water for twenty-four hours. Six of these 11 parts were inorganic salts, and 5 were organic matter, which manifested its quality by requiring, per 100 parts, 66 parts of oxygen for its destruction, and yielding, per 100 parts, 6 parts of albuminoid ammonia. The residue insoluble in water contained nitrogen enough to furnish 5 per cent. of organic ammonia, indicating the presence in it of organic matters, which prolonged maceration and fermentative changes might reduce to a soluble condition.

Having thus determined the solubility and nitrogenous quality of the city dust in its relation to water contamination, a sediment was obtained which had been accumulating and macerating at the bottom of a cistern for eight years. This consisted of 73.1 per cent. of mineral matter and 26.9 of matter destroyed by heat. One hundred parts yielded 54 parts of albuminoid ammonia, showing the presence of insoluble organized material which fermentative action and vegetable growth and decay occurring during the warm months might bring into a state of solubility.

In view of the chemical character of the dust which is carried into

the cisterns, and especially of that of the sediment, of which the dust constitutes but one element, it would appear advisable to have such cisterns as are in use in New Orleans cleaned out annually some time before the occurrence of warm weather. But this is needful only in the event that no other means are adopted to preserve the water from impurity and the cistern from sediment.

The first rain which enters a cistern after a season of dry weather is so unmistakably impure from roof washings that its rejection is immediately suggested as a means of preserving the purity of the cistern. Yet there are very few instances in which this idea is carried out. The majority of the people permit everything from the roof to collect in the cistern, which is cleaned only when the impurity of the contained water forces itself on the senses. Nevertheless some samples were obtained from cisterns which were guarded from a turbid inflow by means of what is known as the *cut-off*. The simplest form of mechanism to effect the rejection of the roof washings consists of a joint in the conductor, which, when in place, leads the water into the cistern, but which, when turned, runs it to waste. Several forms of cut-off were shown to me while in New Orleans. One of the best (Cassidy's) consists of an overflow-pipe running down along the outside of the cistern and guarded at its free end by a valve which can be opened or shut at pleasure. The conductor from the roof opens into this pipe a few inches below its upper end or point of emergence from the cistern. When the valve is open water from the roof runs to waste through the pipe; when it is closed the water is carried over into the cistern, while accidental solids are trapped in the pipe. Automatic cut-offs have been suggested. In one (Le Blanc's), a certain proportion of the water which is rejected is drained into a vessel, which, by its weight when filled, removes the cut-off and permits of ingress to the cistern. In another (Doctor Sternberg's), a wooden float on the waste water receptacle restores the continuity of the conductor. A cistern which had been guarded by a cut-off for five years was emptied for the purpose of being cleaned. Instead of five inches of carbonaceous pulp, the sediment formed only a filmy coating on the bottom and sides of the cistern.

There are other means in use in exceptional cases for excluding sediment from the water-supply, the more common being a conjunction of two cisterns, the second receiving its contents by an overflow-pipe from the first. In one instance the first or sedimenting cistern contained an iron tank, into which the water from the roof was received and from which the cistern was filled by overflow. The second cistern communicated by an overflow with the first, and, as a further means of insuring purity, the water before reaching the delivery faucet had to pass through a sandstone diaphragm.

The processes adopted for the determination of the wholesomeness of these cistern waters were those which were used in the analysis of the Memphis supply. The total quantity of solids in the water and the amount of these lost on ignition were taken by the balance. The nitrites, nitrates, chlorine, and ammonia were determined, as also the quantity of oxygen required to oxidize, and the quantity of albuminoid ammonia evolved in the destruction of organic matters. The sediment was examined microscopically. The volumetric estimation of chlorine, so useful as an indication of contaminated water in the under-ground Memphis cisterns, was of no value in the present under-caught rain. Nitrites were not present in any of the samples, and nitrates existed only in the minute traces proper to rain water. Ammonia varied in quantity with the rain fall and the freedom from combustion products of the roof which shed it, and was therefore of no value as an indication of organic impurity. The oxygen process, although of use as an index of purity, failed to give satisfactory evidence with regard to impurity, inasmuch as free carbonaceous particles were estimated by it as if they were the carbon of complex organic substances. Wanklyn's albuminoid ammonia process afforded the best insight into the character of the waters, and the results were in accordance with the microscopic evidence, increasing amounts of organic ammonia corresponding with increase in the number of low forms of life until the amebae, ctenophores, and ctenophores of swamp-water became the prevailing forms.

The quality of the water in the New Orleans cistern fluctuates with the rain-fall. A clean cistern containing an excellent water may have its contents deteriorated by the inflow of a casual shower laden with all the dust and an impurities of every sort, and this even when a cut-off is used to reject roof washings. The impurity continues to fall for a long time after the roof is thoroughly washed. On March 5, following several weeks of dry weather, 7.3 inches of rain fell on the city. A sample collected during the first half hour of the fall gave .030 parts of albuminoid ammonia per 100,000. Another speci-

men collected toward the end of the fall yielded .021 parts. It is clear that this shower, even if its first portion had been run to waste in roof-washing, would have filled the cisterns with a very impure water, loaded, as shown by the microscope, with recent vegetable tissues, starch cells, coniferoid filaments, zoöpores, cotton fibers, fungi, and mineral fragments. On March 12, another rain-fall was examined, a sample collected during the first three hours yielding .030 parts of organic ammonia per 100,000, while the amount furnished by the remainder of the shower was but .012 parts. Wet weather set in after this date, yielding the cisterns a yet purer water. My examinations were concluded before the occurrence of the rainy weather, and the results of necessity show a higher degree of impurity in the cistern waters than would have been obtained at a later date.

Forty waters were examined. A large proportion of these were from well-conditioned cisterns attached to public buildings, schools, and private dwellings. Not more than half a dozen samples were presented by the inspectors as illustrative specimens of bad cistern-water. Among the former were specimens from the house occupied last year by Gen. J. B. Hood, and from other dwellings in the same yellow-fever-infected neighborhood, but these proved to be, on the whole, above the average as to purity.

Of the forty waters, ten yielded .010, or less, parts of albuminoid ammonia per 100,000; twenty-two gave from .010 to .020 parts; while in eight the yield was over .020 parts. The second, or largest, class may be taken to represent the average of the city waters; the first includes several where special means are taken to exclude sediment; the last represents the old, foul, and uncleaned cisterns. The worst sample presented, chemically and microscopically, the characters of swamp-water. It was furnished as coming from a new cistern to which suspicion of lead-poisoning attached. No lead was present, but the specimen yielded .070 of organic ammonia. Remittent fever developed in the house while the water was under investigation, and the cistern, being suspected, was disused. The house was situated in a well-paved district (Bourbon and Bienville), but the cistern, instead of being new, was very old and rotten. These facts were elicited by inquiry after examination of the water. Water from the swamps beyond the city yielded .090 parts of albuminoid ammonia.

The first of the above classes may be called pure waters, as the purest rain-water collected in country districts at the end of a long-continued fall seldom yields much less than .010 parts of ammonia from its contained organic matter. Those giving from .010 to .020 parts may be called usable, or allowable, waters, as experience shows their use to be unattended with evil consequences; but when the organic matter yields more than .020 parts the water must be assumed to be dangerous, on account of its approximation in quality to that of the swamps and of the occurrence of numerous instances where malarial developments can be directly attributed to its use.

A familiar method of rating the impurity of a given water may be obtained from the results of Wauklyn's process by erasing the decimal point and the cipher or ciphers which follow it. Organically pure water, .000 parts per 100,000, becomes the zero of the scale. Spring water, .000 to .001 parts, has an impurity figure of 4 or less; pure rain water, 10 or less; usable cistern waters, 10 to 20; dangerous waters, over 20. By making use of this relative scale I was enabled to speak of the impurity in various waters so as to be understood with precision by those who, while interested in the waters in question, were ignorant of the methods of analysis and of the value to be attached to determinations of albuminoid ammonia.

But while the average cistern showed an impurity figure of 10-20, and while these figures became somewhat reduced by subsequent long-continued rains, it must be remembered that the waters at this time were probably at their minimum of impurity. During the summer and autumn, when fevers are prevalent, it is certain that the cistern water is more highly charged with organic matter than is the case at present. Under the influence of heat and light chemical changes take place in the sediment with growth and decay of microscopic life, fainting the water in most of the cisterns, so that the senses can take cognizance of its impurity. In the sound cisterns of the city of Memphis, and from their underground position, much purer waters were obtained than the best samples from the city of New Orleans. The underground position appears to induce changes favorable to the purification of the water. Wolf River water stored in these cisterns underwent the same process of purification. Rain water can be drawn from them as pure as that from natural springs. But deterioration rather than improvement is the rule in the exposed wooden cisterns of New Orleans. Cleanliness of cistern effected by the use of a cut-off, with efficient shade and ventilation, will tend to retard the deterioration; but it is doubtful if water should be used from such cisterns for drinking purposes without undergoing some process of purification. The contents of the best of them are susceptible of improvement. Many intelligent persons recognize this fact and make use of various forms of filter to effect the purpose. Some of these act in a purely mechanical manner by separating solid matters. The result is a water which presents its cleanliness to the eye as proof of a purity which it may not possess. Water from the drainage canals sedimented for a few days is clearer than many of the cistern waters, and yet it is neither more nor less than the sewage of the city. The sandstone diaphragm in a cistern already mentioned is an example of valueless filtration. The organic matter in the water was unaltered by its transmission through the pores of the

stone. On the other hand, a sandstone filter in another cistern which was examined, gave a clear water, pure in every respect. The stone in this instance was hollow and about the size of a five-gallon keg. Air was freely admitted into its interior by a ventilating tube which rose from it to a point above the high-water mark of the containing cistern. The pressure of the superincumbent water caused an influx through the pores of the stone, which appeared as a dew on the internal surface where it came in contact with the contained air. The water was thus presented for aeration under favorable conditions, somewhat analogous to those attending the aeration of the blood in the lungs. It collected in the interior of the stone keg, from which it was drawn off by a pipe and faucet. In the diaphragm there was a simple straining of a continuous current of water. In the keg there was in addition to the straining a very efficient oxidation of dissolved organic matter.

But these efforts at purification occur only in exceptional instances, where an appreciation of the water impurity coincides with the financial ability to undertake its removal. What the city requires is a simple method of filtration which can be accomplished at an almost nominal expense. I have suggested and sent to New Orleans a model of a filter which may fulfill the requirements of the cistern waters. If it is found that the tin-workers can furnish it at a price which will put it within reach of everybody, I shall have one made here for the purpose of testing its action and determining the period when the charcoal packing will have to be renewed. It cannot be excluded from use as infringing on any of the many patents, as the principle of funnel-filtration or percolation is common property, and the suggested method is funnel-filtration through charcoal and sand reduced to its simplest form. The filter in the model is made of tin, and consists of a modified funnel, the body of which rests on a tin bucket or receiver, while the tube projects downward to the bottom of the said bucket. The lower end of the tube is tied over with some filtering cloth. Three-fourths of its length is filled with granulated bone charcoal and the upper fourth with sand. The upper end of the tube projects about half an inch into the body of the funnel to permit of tying a filtering cloth over the top of the sand. The angle between this projection and the sloping sides of the funnel will serve to trap solid matters. To clean this filter, the filtering cloth guarding the top of the tube will have to be removed, washed, and replaced. At longer intervals, when the filter shows signs of clogging, half an inch of the upper layer of sand may be removed and replaced by fresh material. At yet longer periods, depending on the length of time during which the charcoal retains its powers of oxidation, the whole contents of the tube may be dumped out and renewed. Earthenware is more durable than tin, and would preserve the water cooler during the warm months. Some such method as this is desirable for general adoption in connection with the cistern-water supply, and, as many of the citizens have expressed an interest in the matter, it is hoped that something may be accomplished.

I had the honor on two occasions, while in New Orleans, to discuss the question of water supply before the auxiliary sanitary association. The attention of the association was specially invited to the character of rain-water, to impurity in cisterns, to the connection between disease and impure water supplies, and to methods of purification. A resolution of thanks was passed by the association, and provision made for the publication of the papers in pamphlet form for general circulation.

I have to thank Dr. Herriek, secretary of the Louisiana State board of health, and Mr. Horter, vice-president of the Citizens' auxiliary sanitary association, for furnishing me with the necessary samples for analysis.

In connection with the drinking-water supply, two samples of ice were examined, one marked Boston, the other Louisiana ice. Both specimens yielded satisfactory results.

During the period of my stay in New Orleans the Mississippi River was flooded to the danger line and was exceedingly turbid. Its water was totally unfit for drinking, except when efficiently purified by household filtration. The turbidity was similar in character to that of Wolf River, which was investigated last autumn. It consisted largely of microscopic points of clay. The sand and grossest particles subsided within 24 hours, but many days of sedimentation were required before the fine clay cloud would leave the water of ordinary clearness. Much difficulty would be found in treating this water on the large scale, so as to procure a satisfactory supply at all seasons. Even household filtration is troublesome on account of the impermeability of the first deposited layer of clay. The filters require frequent attention. The water is used, however, in several instances after filtration. Samples passed through sandstone gave results satisfactory in proportion to the perfection of the aeration. Charcoal filtration yielded excellent results. Filtration through paper was impossible. Sedimentation for 24 hours did but little to free the water from dissolved organic matter or from that held in suspension along with the fine clay. The river water is, no doubt, as at Memphis, purer during the summer and autumn, when the stream is low and comparatively free from suspended matters. More hydrant water is used in the household economy at these times, which fortunately correspond with the period of scarcity and of maximum impurity in the cisterns. The filter suggested above, in connection with the cistern supply, is unsuitable for the turbid river water.

The well waters of New Orleans are unfit for use. They are but little less impure than the sewage water carried off by the drainage canals, yet they are reported as being employed for family use, in bakeries, and for stock, especially in the summer, when the cistern supply fails. The site of the city is water-logged to within a few feet of the surface. One well on Chestnut street, the least impure of those examined, is only 10 feet deep, and contains 7 feet of water. The saturated soil is of great depth, and the ground-water is practically stagnant. The filtration into the wells is insufficient even to free the water from turbidity. Organic matter is unaffected by the process. The water contains alkaline carbonates, chlorides, large amounts of free ammonia, but no nitrates or even nitrites. In 4 wells examined, the ammonia from organic matter amounted to .030, .041, .041, and .080 parts; while in the sewage from the Orleans canal it only reached .120 parts. These samples are so impure, that the use of well water in New Orleans should be interdicted. Even careful filtration should not be relied on to purify such waters. Filtration is not a process by which dangerous waters may be utilized, but simply a guard against the possibility of danger in doubtful waters.

The city of Mobile, Ala., has an excellent water supply, said to originate in springs about 6 miles from the city. The water, however, appears to consist of the rainfall filtered naturally through sand, which, while diminishing the quantity of ammonia and organic matter, gives but little increase to the mineral constituents. But as this supply is at present rather costly, bored and dug wells are in common use in many parts of the city, and furnish the exclusive supply in the outlying districts.

Four samples of each of these well waters were furnished by Dr. Seales, health officer of the city, for analysis.

The dug wells have a depth of about 18 to 20 feet. The mineral constituents of their water are alkaline carbonates, chlorides, and nitrates, varying from 70 to 120 parts per 100,000. These show the water to be of foul surface derivation, but altered for the better by its percolation through the soil. Nevertheless, three of them (north side Broad, corner Lawrence and Bloodgood, and corner Lawrence and Erlina streets) contain so much unaltered organic matter as to merit unqualified condemnation. The fourth (west side Conception, between Augusta and Savannah streets) gives a better water. Its supply is manifestly derived from deeper strata than that of the others, although its reported depth is only 25 feet. Its water is similar to that in the bored wells, but there are, in addition, signs of recent surface infiltration which cast suspicion on the well, although the water contained in it at the present time may not be unwholesome.

The bored wells yield a water which contains but little inorganic residue and is comparatively free from organic matter. One of them, however (on Conception, between Adams and Congress), leaks directly from the surface and is contaminated. The others (corner State and Franklin, Saint Michael, between Warren and Dearborn, and corner Davis avenue and Lawrence) contain waters in which the organic matter is represented at the present time by the presence of harmless nitrates. In such cases I have been in the habit of reporting to the individuals interested that the water is good but the well of doubtful character. Some accident may at any time interfere with the efficiency of the natural filtration; some leak may admit surface water from the overlying strata to taint the purity of the well supply. These wells are from 50 to 65 feet deep, and contain only one-fourth of the solid matters which are found in the shallower wells. Their water must, therefore, come from a distance instead of by percolation from the overlying surface. This fact appears to guarantee the purity of their waters for many years to come. Indeed, the probabilities are that, if leakage from above is excluded, the wells may be trusted indefinitely to furnish a pure supply.

Only one specimen of cistern water was sent for analysis, from Mobile. It was forwarded by Dr. Games as a sample of the water supplied in a house where remittent fever prevailed in the absence of prominent sources of malarial exhalation to account for the presence of the disease. It was largely charged with vegetable organic matter, giving .003 parts of albuminoid ammonia and requiring 1.120 parts of oxygen per 100,000.

While the waters from bored wells are satisfactory, although liable to pollution in individual instances, it is to be hoped that the city may soon be enabled to do away with the necessity for their existence and for that of the shallow wells and impure cisterns which furnish a large part of the present supply. Enlargement and extension of the water-works would remedy the evil.

MEMPHIS, TENN.—Dr. S. H. Collins reports that up to April 4 the work of cleaning and filling vaults, &c., had been very thoroughly done, but so delayed by unusually heavy and continued rains as to require an extension of the time at first allowed by the authorities. The rains had also greatly interfered with the work on the sewers. Ten of the laborers on the sewer-trenches had been under treatment with a mild but distinct form of diphtheritic sore throat. The work of destroying condemned buildings goes on slowly, but better since a change has been made in the form of notice served. Scarlet fever is disappearing, but there is an increase in malarial fevers of "congestive" type.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

BURLINGTON, Vt., April 10.—Dr. Geo. M. Ockford reports one fatal case of diphtheria in a tenement within 50 feet of the soap-factory mentioned in a former letter. (See BULLETIN, No. 38.) Whooping cough prevails, but not in epidemic form. No new cases of scarlet fever in the city, but several have occurred at Winslow, one and a half miles distant, with one death. No further cases of small-pox at Underhill; there were six cases, with one death, in one house, which has been thoroughly fumigated, and no spread of the disease is anticipated, as a rigid quarantine is also enforced. Since the middle of March there has been a tendency to fevers of a "bilious" type, occurring mostly among children.

INDIANOLA, IOWA, April 10.—Dr. Thos. S. Parr reports that the health of that town has been above the average during the first three months of the year. A peculiar sore throat, like that of *scarlatina anginosa*, but without eruption, and not fatal, had prevailed among children under four years of age. The legislature has recently passed a bill authorizing the organization of a board of health.

JACKSON, MISS.—Dr. Wirt Johnson forwards a copy of "An act to amend the statutes in regard to boards of health," approved by the legislature of Mississippi, March 1, 1880. This act confers full powers on the State boards of health for abating nuisances, enforcing reports of contagious diseases, &c. Each county is to have a chief health officer, appointed by the governor on nomination of the State board. The power to establish quarantines is vested solely in the State board, which may proceed, at the expense of the State, to establish quarantine in any case where the local authorities fail to do so. All incorporated towns are authorized to create boards of health, and to enact and enforce laws for registration and mortuary statistics, and for suppressing nuisances. On the appearance of yellow fever, or other contagious disease in the State, the State board of health shall take charge of the infected locality, and enforce such rules as it may deem necessary to prevent extension of the disease; said rules to be approved by the governor. For this purpose, the sum of \$20,000 is appropriated. The State board is also authorized to employ special inspectors at its discretion, their compensation not to exceed ten dollars per diem while actually on duty.

SAINT MARY'S, GA.—Dr. A. F. Barnard writes that up to the first week in April this place has been healthy as usual as to diseases of local origin, but an epidemic of measles had prevailed, originating from a case from New York. Population about 500; no deaths since last report.

TAMPA, FLA., April 3.—Dr. J. P. Wall writes as follows in reference to the supposed immunity of cattle-ships from the infection of yellow fever:

I have noticed for some time that such immunity is claimed for this class of vessels, but without any good reason, save the favorable circumstances attending the shipment of cattle. Vessels loaded with cattle on arriving at Havana proceed to Regles, across the bay, and discharge at once. Most of them bring no cargo on the return trip, and so escape infection from that source. After the discharge of each cargo of cattle the filth and odor from the animals render very thorough cleaning necessary. These conditions, obtaining in most cases, are sufficient to account for the exemption of cattle-ships from yellow fever. When such ships are exposed like other vessels they are as readily infected. This was the case with the steamer *Southern Star* in 1877. The vessel was engaged in the cattle trade, and on one voyage was detained several days at Havana. The engine exposed herself by visiting the shore, took the fever and died. Several other hands on board also had the fever, and the ship was proved to be infected by the fact that on her return to this coast a stock raiser from the interior, who went on board to collect his money, took the fever, and died soon after with black vomit. These facts were investigated by Dr. Jerome Cochran, of Mobile, during his tour of inspection here last summer. This case alone should warn the public against the fallacious and dangerous idea that cattle-ships enjoy any special immunity from yellow fever infection from the nature of their cargo.

WHITING, W. VA., April 7. Dr. J. E. Reeves observes that the mortality of that city is excessive. During the first six days of April there were 20 deaths; 6 from typhoid fever, 8 from measles, and 6 from other causes. Adding these to the 75 deaths reported in March, the annual death rate for the five weeks, in a population of 30,000, was nearly 33 per 1,000.

WILMINGTON, DE.—Dr. E. B. Frazer sends copies of laws relating to sanitary measures. An ordinance, approved February 2, provides for general gratuitous vaccination in the city. Other ordinances relate to the organization of the board of health, and the abatement of nuisances, &c.; no mention is made of any provision to compel registration and reports of vital and mortuary statistics.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING APRIL 3, 1880—Continued.
CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—		Consumption.	Croup.	Diphtheria.		FEVER.					Lung diseases, acute.		Pneumonia, chronic.		Small pox.	Whooping-cough.	All zymotic diseases.	Accidents.
											Erysipelas.	Malaria.	Scarlet.	Yellow.		Measles.							
Cal ...	San Francisco	305,000	25	90	15.4	11	.....	.....	2	2	1	.....	1	.....	21	2	1	.....	.....	.....	13	12
	Los Angeles	14,000	.....	6	22.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Vallejo	7,500	.....	2	13.9	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals		8,386,742	1,199	1,238	20.1	520	63	18	98	62	31	77	168	70	39	1	17	156	7	17	156	7

* Boston has 370,000 white, 5,000 colored, deaths, 152 white, 1 colored. Rate per 1,000 white 21.1, colored 11.7. Lawrence, Mass., has 39,800 white, 200 colored, deaths, 12 white, 1 colored. Providence has 92,200 white, 3,800 colored, deaths, 31 white, 3 colored. Rate per 1,000 white 11.2, colored 11.3. Reading has 40,000 white, 550 colored, deaths, 8 white, 1 colored. Rate in table. Wilmington, Del., has 39,000 white, 5,000 colored, deaths, 11 white, 1 colored. Rate per 1,000 white 11.7, colored 11.7. Baltimore has 343,715 white, 56,255 colored, deaths, 100 white, 12 colored. Rate per 1,000 white 15.0, colored 38.9. District of Columbia has 114,000 white, 56,300 colored, deaths, 28 white, 37 colored. Rate per 1,000 white 17.3, colored 31.6. Norfolk has 15,500 white, 9,500 colored, deaths, 2 white, 9 colored. Rate per 1,000 white 6.7, colored 49.4. Richmond has 16,000 white, 31,000 colored, deaths, 9 white, 16 colored. Rate per 1,000 white 10.2, colored 24.5. Wilmington, N. C., has 6,714 white, 10,286 colored, deaths, 1 white, 6 colored. Rate per 1,000 white 7.7, colored 27.5. Charleston has 25,000 white, 32,000 colored, deaths, 2 white, 27 colored. Rate per 1,000 white 11.1, colored 44.0. Savannah has 17,193 white, 13,163 colored, deaths, 10 white, 8 colored. Rate per 1,000 white 29.8, colored 27.5. Augusta has 16,176 white, 10,821 colored, deaths, 3 white, 5 colored. Rate per 1,000 white 9.6, colored 24.1. Atlanta has 25,373 white, 16,175 colored, deaths, 1 colored. Rate in table. Jacksonville has 7,000 white, 5,000 colored, deaths, 3 white, 2 colored. Rate per 1,000 white 37.2, colored 20.8. Mobile has 28,000 white, 12,000 colored, deaths, 2 white, 3 colored. Rate per 1,000 white 27.7, colored 23.0. New Orleans has 15,000 white, 15,000 colored, deaths, 77 white, 25 colored. Rate per 1,000 white 25.9, colored 33.2. Shreveport has 1,500 white, 5,000 colored, deaths, 1 white, 3 colored. Rate per 1,000 white 11.5, colored 31.3. Memphis has 16,765 white, 13,854 colored, deaths, 9 white, 11 colored. Rate per 1,000 white 28.1, colored 11.1. Nashville has 26,000 white, 11,000 colored, deaths, 8 white, 11 colored. Rate per 1,000 white 16.0, colored 32.1. Chattanooga has 7,800 white, 5,000 colored, deaths, 1 white, 1 colored. Rate per 1,000 white 26.5, colored 41.5. Clarksville has 3,000 white, 3,000 colored, deaths, 1 white, 1 colored. Rate in table. Louisville has 153,125 white, 21,875 colored, deaths, 11 white, 14 colored. Rate per 1,000 white 15.0, colored 33.4. Wheeling has 28,000 white, 900 colored, deaths, 21 white, 1 colored. Rate in table. Burlington, Iowa, has 5,500 white, 600 colored, deaths, 7 white, 1 colored. Rate in table. Keokuk has 15,000 white, 800 colored, deaths, 3 white, 1 colored. Total white population, 1,666,161, deaths, 567; annual rate per 1,000, 17.7. Total colored population, 287,732; deaths, 218; annual rate per 1,000, 33.3.

The following reports, for the week ending April 3, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 1,000; acute lung disease 1. Brunswick, Ga., 4,000; deaths, 2; diarrhoea 1. Edgartown, Mass., 1,400; no deaths. Franklin, Tenn., 1,800; consumption 1. Morgan City, La., 2,500; no deaths. Murfreesborough, Tenn., 3,500; one death. Nantucket, Mass., 3,000; deaths, 3; consumption 1, enteric fever 1, old age 1. Saint Augustine, Fla., 2,500; no deaths. Shelbyville, Tenn., 2,000; one death.

Total population, 24,700; total deaths, 9; annual rate per 1,000, 12.0.

The following reports, for the week ending April 3, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 2; consumption 2, lung diseases 2. Alleghany, Pa., 75,000; deaths, 20; under 5 years, 11; consumption 2, diphtheria 2, lung diseases 3. Bath, Me., 10,000; deaths, 2; under 5 years, 1. Battle Creek, Mich., 7,500; deaths, 2; lung diseases 2. Belfast, Me., 3,278; deaths, 2; consumption 1, *black vomit* 1. Benton County, Miss., 11,000; one death, under 5 years, 1. Boulder, Col., 3,500; deaths, 2; under 5 years, 1; pneumonia 1. Brattleborough, Vt., 6,500; pneumonia 1. Calais, Me., 7,000; deaths, 5; under 5 years, 1; consumption 1. Cambridge, N. Y., 1,200; deaths, 3; lung disease 1. Carrollton, Miss., 600; no deaths. Chillicothe, Mo., 1,750; no deaths. Cincinnati, Ohio, 6,400; deaths, 2; under 5 years, 1; pneumonia 1. Clinton, Mich., 1,200; no deaths. Columbus, Ga., 10,000; deaths, 3; under 5 years, 1. Corinth, Miss., 2,300; one death. Crystal Springs, Miss., 1,000; one death. Dallas, Tex., 20,000; deaths, 5; under 5 years, 1; consumption 1, diphtheria 1, enteric fever 1, pneumonia 1. Davenport, Iowa, 27,000; deaths, 7; consumption 2, diarrhoea 1, pneumonia 1. Decatur, Miss., 1,000; no deaths. East Haven, Conn., 1,200; no deaths. Fairfield, Conn., 1,000; no deaths. Fayette, Miss., 300; no deaths. Greenville, Ala., 4,500; no deaths. Helena, Montana, 3,500; deaths, 1. Huntington, Pa., 4,500; pneumonia 1. Huntington, Tenn., 500; consumption 1. Indianola, Tex., 300; no deaths. Inka, Miss., 1,000; no deaths. Jefferson, Tenn., 3,000; deaths, 2; under 5 years, 1; consumption 1, croup 1. Kenosha, Wis., 5,000; consumption 1. Lansingburgh, N. Y., 7,150; deaths, 1; consumption 2, pneumonia 1. Lebanon, Pa., 9,000; deaths, 2; consumption 1, pneumonia 1. Little Falls, N. Y., 5,900; deaths, 3; under 5 years, 2; consumption 2, pneumonia 1, measles 1. Louisiana, Mo., 7,200; no deaths. Lynchburg, Va., 21,000; deaths, 7; consumption 2, pneumonia 1, puerperal 1. Madison, Ind., 12,000; deaths, 1; under 5 years, 1; consumption 1, puerperal 1. Marquette, Mich., 4,000; no deaths. Meridian, Miss., 5,500; malarial fever 1. Millersville, Ga., 1,000; no deaths. Mount Pleasant, Ill., 6,000; deaths, 3; consumption 1. Mount Pleasant, Iowa, 5,000; no deaths. Muscatine, Iowa, 7,500; deaths, 5; under 5 years, 1; diphtheria 1, lung diseases 2, scarlet fever 1, whooping cough 1. Muskegon, Mich., 15,000; deaths, 3; under 5 years, 1; diphtheria 1, pneumonia 1. Natchez, Miss., 10,000; deaths, 3; under 5 years, 1; consumption 1, pneumonia 1. Nebraska City, Neb., 5,200; consumption 1. Newcastle, Pa., 10,000; deaths, 5; consumption 1.

Okolona, Miss., 3,000; consumption 2. Oshkosh, Wis., 18,000; deaths, 2; under 5 years, 1; consumption 1, pneumonia 1. Painesville, Ohio, 5,000; one death. Phenixville, Pa., 6,000; deaths, 3; under 5 years, 1; consumption 1, measles 1. Poncaire, Miss., 6,200; deaths, 6; malarial fever 3, measles 3. Pontore, Ohio, 600; no deaths. Port Jervis, N. Y., 10,000; deaths, 3; under 5 years, 1; consumption 2. Pulaski, Tenn., 2,000; whooping cough 1, under 5 years, 1. Ripley, Miss., 1,000; no deaths. Rock Island, Ill., deaths, 5; no population given. Rockland, Me., 7,000; deaths, 3; under 5 years, 1; consumption 1. Santa Cruz, Cal., 5,000; one death. Springfield, Ohio, 33,000; deaths, 1; consumption 3, puerperal 1. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths, 2; under 5 years, 1. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; no deaths. Tuscaloosa, Ala., 1,000; old age 1. Victoria, Tex., 3,500; deaths, 2; under 5 years, 1. Watertown, Conn., 16,000; deaths, 5; under 5 years, 2; diphtheria 1, pneumonia 1. Watertown, N. Y., 12,000; deaths, 9; under 5 years, 7; croup 1, scarlet fever 2. Waxahatchie, Tex., 2,000; no deaths. Wesson, Miss., 2,000; pneumonia 1. Winchester, Va., 5,500; deaths, 1; under 5 years, 1; consumption 2. Winona, Minn., 10,000; deaths, 2, under 5 years; croup 1, pneumonia 1. Xenia, Ohio, 7,500; deaths, 5; consumption 3. Youngstown, Ohio, 17,000; deaths, 5; under 5 years, 1; consumption 1, pneumonia 1, enteritis 1.

Total population, 565,391; deaths under 5 years, 51; total deaths, 176; annual rate per 1,000, 16.2.

WEEKLY SUMMARY OF MORTALITY

The reports for the week ending April 3, represent a population of 7,386,742, or 155,274 less than that for the preceding week. The number of deaths is only 18 less than last week, being 3,238, and the annual rate has risen from 19.8 to 20.1 per 1,000. The deaths under 5 years have fallen from 1,255 to 1,199, reducing the annual rate from 7.66 to 7.16 per 1,000. The death rates of the principal diseases have changed as follows: *Increased*, consumption, from 3.00 to 3.23; consumption and lung diseases, from 6.09 to 6.11; scarlet fever, from 0.33 to 0.41; enteric fever, from 0.26 to 0.38; measles, from 0.35 to 0.41. *Decreased* lung diseases, from 3.09 to 2.91; diarrhoeal diseases, from 0.34 to 0.32; diphtheria, from 0.71 to 0.61; croup, from 0.52 to 0.39; malarial fevers, from 0.21 to 0.21, and whooping cough, from 0.33 to 0.29 per 1,000 of population per annum. Malarial fevers, though generally declining, are reported from some localities as presenting a "malignant" or "congestive" character; such cases will no doubt give rise later in the season to reports of *yellow fever* in places infected last year, or exposed to infection from abroad. Scarlet fever is widely distributed among most of the larger cities of the North, East, and Northwest, and is again increasing in fatality, while the rate of deaths from measles is twice as great as it was a month ago.

REPORTS FROM HOSPITALS IN THE UNITED STATES FOR THE WEEK ENDING APRIL 3, 1940.

[illegible]

REPORTS FROM HOSPITALS IN THE UNITED STATES FOR THE WEEK ENDING APRIL 3, 1980—Continued

[illegible]

YOKOHAMA, JAPAN.—Dr. P. Fitzsimmons gives the following account of this city, under date of March 8:

The city is partly built on made ground, only a few feet above the level of the bay, and is intersected by canals. The water-front is faced with stone, and vessels anchor at some distance from it. The naval hospital is on a hill, 115 feet above the sea level. Observations made at this station for five years give the following results: Mean temperature, 58.46; lowest monthly mean, 36.9, in January or February; highest, 80.4, in July or August; highest temperature noted, 92.4; lowest, 23.8. The range of the thermometer is probably diminished by the influence of the "black stream" of Japan. Mean rain-fall, 64 inches per annum; highest in one month, 17.97 inches, in September; highest in one year, 75 inches. Humidity is high in the hot months, and renders the heat more oppressive than the thermometer would indicate. Prevailing winds are northerly in September to May, and southerly the rest of the year, but the regular monsoon blows from the south. The water-supply is chiefly from boats, which bring goods and water to the wharves. The wells are also many wells, some brackish, and few good, being shallow and often contaminated from surface drainage and from neighboring privies. Drainage is effected partly by wooden drains and partly by a deeper system of earthenware tubes. The people are generally cleanly in person, habits, and dwellings, and filth-diseases are rare. With regard to contagious diseases, the statistics extend over only a few years, and are gathered from different sources. Those of the "General Hospital" are from a paper published by Dr. Eldridge, and are very reliable; they apply partly to the foreign population, who live on the hills, and under the best sanitary conditions. In ten years 1,756 patients were admitted, and the mortality was 12.6 per cent. Of those admitted about two-thirds were non-residents—mostly sailors. Small-pox was epidemic in 1870, furnishing 19.5 per cent. of admissions, and in 1871 25.3 per cent. The disease prevailed extensively among the natives, but no records are to be had. In 1872, 1873, 1874, and 1875, it was somewhat common; in 1873, seven; in 1874, seven; and in 1875, there was another epidemic. The Japanese Government is vigorous in enforcing vaccination, and has a farm at Tokio where bovine virus can be obtained. Typhus fever was epidemic in 1869, mostly among the shipping and those recently landed. In 1871 nine cases were reported, and no cases have been known since. Yellow fever and plague have never appeared here. The first known epidemic of cholera, in 1861 '62, was severe. In 1877 there was a mild epidemic, late in the season, when 752 were attacked, and 16 died in Yokohama. In 1878 the disease prevailed chiefly in the southern part of the empire. In 1879 it swept over the whole country, with the following results, as given in the official statement obtained by Mr. Bingham: From March 1, 1879, to January 6, 1880, there were 168,341 cases, 101,364 deaths, 47,888 recovered, and 19,062 in which the result is unknown. Mr. To states that no case has been reported since December 27. The government here is able to enforce its views among its own people, and seems disposed to adopt the best advice, and is well satisfied with the results that foreigners are now able only to their own ministers, who, from their position, are often opposed the measures of government, and even disregard quarantine regulations, ordering ships of their nationality to proceed directly to the town and discharge. When cholera first appeared last year, it was for two months confined to a very limited area by a judicious and rigorous system of isolation.

STATE OF DIPLOMAS.—Under date of March 26, Commissioner John Eaton, of the Bureau of Education, states that the issue of fraudulent diplomas by so-called institutions of learning in this country has become frequently brought to the notice of his office. Among the latest reports is one from Mr. White, United States Minister at Berlin, stating that "Mr. Lappenberg had received, for his office, a diploma, having such a glossed-on parchment, issued by 'The American University of Philadelphia,' and conferring the degree of doctor of medicine upon one Christoph Schuetz, living at Leipzig." It appeared that the diploma was offered to Schuetz on condition of payment of a certain sum. It is signed by the "faculty" of said institution, headed by the name of John Buchanan, M. D. Schuetz desired a certificate of genuineness of the diploma, which was a tussle by Mr. White. The diploma, though evidently new, was dated 1872. Soon after this case, the judicial authorities at Berlin forwarded a copy of a diploma issued by the above named institution, over the signature of Dr. Buchanan and others, to Paul Christoph Lobmann Volland. The authorities desired information as to the genuineness of the diploma and the standing of the institution before admitting Volland to practice. The name of the institution not appearing in the list published by the Bureau of Education, the reply was unfavorable to Volland's claim. Mr. White forwarded a certified copy of the diploma of Volland, and observes that our country has gained an enviable reputation in Germany for the sale of unmerited diplomas by irregular institutions. It only renders the matter the more serious that the diploma last mentioned is duly certified by Philip A. Cregan, notary public, and by William B. Mann, prothonotary, stating that the "Eclectic Medical College and American University of Philadelphia" is a regularly incorporated institution in good standing.

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.			
1880.																		
Vancouver's Island	Victoria	5,000	Mar. 27	20	9													42
Canada	Kingston	16,000	Mar. 6	21	8													32.2
Do.	do	16,000	Mar. 27	23	2													26.5
Do.	do	16,000	Apr. 3	23	2													38.4
Do.	do	5,000	Apr. 3	1	20.9													33.3
Cuba	Havana	105,437	Apr. 3	144	38.4			5		3		6						86
Do.	Port au Prince	30,000	Mar. 17	19	50.4													87
Do.	do	30,000	Mar. 24	13	32.6													74
Do.	Aux Cayes	8,800	Mar. 13	5	57.6													74
Do.	do	8,800	Mar. 20	3	33.5													84
Mexico	Acapulco	3,500	Mar. 13	8	22.9													84
Do.	do	3,500	Mar. 20	7	20.0													67.1
Teneriffe	Santa Cruz.	16,610	Mar. 6	8	48.1					1		2					16	70.5
Do.	do	16,610	Mar. 13	9	53.1													70.5
Ireland	Queenstown	10,000	Mar. 27	1	10.0													44.8
Do.	Belfast	230,000	Mar. 20	107	46.5					15		20		4			17	44.4
Do.	Dublin	311,666	Mar. 20	224	72.0						3		5		2	1	43	40.4
Scotland	Dundee	155,600	Mar. 20	81	52.1							1				331	3	40.4
Do.	Glasgow	589,508	Mar. 20	274	46.2													43.3
Do.	Leith	58,000	Mar. 27	19	32.6								8					40
England	London	3,251,200	Mar. 20	1,465	45.0							11						43.3
Do.	Bristol and Clifton	235,500	Mar. 20	97	41.2													42.9
Do.	Newcastle	148,948	Mar. 20	62	41.6													52.2
Do.	Liverpool	544,056	Mar. 20	246	45.2							4		1				40
France	Nice	40,777	Mar. 20	27	66.3							4		1				49.3
Switzerland	Paris	1,988,806	Mar. 25	1,296	65.2							2		55		63		49.3
Do.	Zurich	221,103	Mar. 9	9	4.1										11	1	24	49.3
Germany	Berlin	1,087,500	Mar. 13	191	17.6							6		2		1		49.3
Do.	Brussels	74,000	Mar. 20	26	35.1												1	50.9
Do.	Stuttgart	126,000	Mar. 13	51	40.5													55
Do.	Frankfurt-on-the-Main	126,000	Mar. 13	57	45.2													55
Do.	Breslau	276,000	Mar. 13	177	64.1										2			44.4
Do.	Munich	50,500	Mar. 27	23	45.5													39.6
Do.	Batavia	55,000	Mar. 20	50	90.9													40.7
Bavaria	Munich	160,000	Mar. 13	54	33.8													37.6
Saxony	Leipzig	156,836	Mar. 20	57	36.4													39.1
Do.	Dresden	218,000	Mar. 13	93	42.7													39.1
Do.	Chemnitz	89,000	Mar. 13	49	55.0													39.1
Belgium	Brussels	405,171	Mar. 20	190	46.9													39.1
Denmark	Copenhagen	255,000	Mar. 16	98	38.4													39.1
Italy	Rome	288,960	Feb. 8	296	102.8													39.1
Do.	do	288,960	Feb. 14	272	94.2													39.1
Do.	do	288,960	Feb. 21	292	101.1													39.1
Do.	do	288,960	Feb. 28	235	81.4													39.1
Do.	Leghorn	97,880	Mar. 27	63	65.5													39.1
Austria	Trieste	128,252	Mar. 13	91	70.9													39.1
Russia	Vladivostok	250,000	Mar. 13	180	72.0													39.1
Sweden	Stockholm	169,429	Mar. 13	79	46.6													39.1
Norway	Christiania	116,801	Mar. 13	40	34.3													39.1
Cape Colony	Cape Town	35,600	Mar. 8	26	73.0													39.1

ABSTRACTS FROM CONSULAR REPORTS.

CANTON, CHINA.—United States Consul F. D. Cheshire sends reports for the weeks ending February 7, 14, and 21, and notes that cold and damp weather prevailing has caused much bronchial and rheumatic disease, but the number of deaths cannot be ascertained. Mean temperature about 55°.

COLOMBO, CEYLON.—United States Consul W. M. Moxey reports for the month of February continued good health in his district. Mean temperature 85°. No data for mortality statistics.

Ghent, BELGIUM.—United States Consul A. Lefebvre reports for the month of January 326 deaths, in a population of 130,000, being at the annual rate of 39 per 1,000. The only zymotic diseases noted are, small-pox 1, typhoid fever 3, and "other contagious diseases" 11. Consumption caused 10 deaths, and lung diseases 63, giving an annual rate for both of 9.5 per 1,000; in the United States, the rate in New England for the same month was 6.07.

Ghent, BELGIUM.—United States Consul Samuel Spackman reports for the month of February 345 deaths, in a population of 130,000; annual rate, 34.7 per 1,000. Eight deaths were from typhoid fever, and 7 from "other contagious diseases." Consumption caused 50 deaths, or 4.59 per 1,000 per annum. Lung diseases 75, or 6.57 per 1,000. The rate from both was 11.56 per 1,000 per annum; in New England it was 6.92 for the same period of time. Diarrheal diseases caused 16 deaths, chiefly among young children. The zymotic diseases generally were decreasing in fatality since January.

ISLANDS OF MALTA AND GOZO.—United States Vice Consul C. B. Eynard, reports 150 deaths for the two weeks ending February 23. The population being 153,500, the death-rate was 28.1 per 1,000. Measles still prevail, and caused 41 deaths in the two weeks.

RIO DE JANEIRO.—The United States consul sends reports for the weeks ending February 7, 14, 21, and 28. During these four weeks there were 191 deaths from yellow fever in the city and at the hospital of Turububa. Other causes of death were: Consumption 130,

malarial fevers 75, and typhoid fever 19. There were 1,280 deaths from all causes, and the population being 330,000, the annual rate was 50.2 per 1,000; omitting the deaths from yellow fever the rate falls to 31.2. The rate for consumption is 5.5, being about 2.75 in the United States generally, and less than 3.5 in New England.

The bark *Liquidick* and *Seren* sailed for Baltimore February 19; both had lost men by yellow fever. British brig *Robert and Mary* sailed same date for New York, and British ship *City of Mobile* for Southwest Pass on the 19th. The latter vessel is said to have sent 14 men to yellow-fever hospital. Vessels of them took bills of health from Rio. Careful inspection of vessels leaving that port in February and March is recommended.

ST. THOMAS, WEST INDIES.—United States Consul V. V. Smith reports for the two weeks ending January 15, six deaths from malarial fevers, one each from consumption, heart-disease, and paralysis, and 8 from other causes. The total number of deaths being 17, and the population 15,000, the annual death-rate was 27.2 per 1,000. No contagious diseases reported.

HOBART TOWN, TASMANIA.—The following vital statistics are from a paper of January 24, and were published by E. S. Hall, health officer:

The population of the registration district, July, 1879, was 28,000, and there were 641 deaths during the year, giving 22.9 per 1,000; least number monthly was 30, in November; greatest, 68, in January and July. The district includes an unusual proportion of invalids and prisoners, and the annual death-rate for the whole island is probably not over 15.5 per 1,000. The city of Hobart Town proper has about 21,000 inhabitants, of which children and old people form a large proportion. The climate seems especially favorable to children, the death-rate under five years being as 180 to 153 compared with that of England. Deaths in the city being 384, the rate was 17.8 per 1,000. In December, 1879, there were 41 deaths in Hobart Town; zymotic diseases, 8; consumption, 3, and lung diseases, 3; old age, 3; accidents, 3. Mean temperature for the month, 61° 5.

National Board of Health

BULLETIN.

[Vol. 1.]

WASHINGTON, D. C., SATURDAY, APRIL 24, 1880.

[No. 43.]

MONTHLY REVIEW OF MORTALITY FOR MARCH, 1880.

The mean population represented in the weekly reports continues to increase gradually, being 8,460,593 for the month of March, or \$7,060 more than that for February, and 326,694 more than for January.

The first three months of this year have been marked by a temperature above the mean for the season, in almost every part of the United States, and have also been unusually free from extreme perturbations of the atmosphere and temperature. Under these favorable conditions, it is probable that the mean annual death-rate of 18.87 per 1,000, for the past quarter, is lower than usual for that period of the year. In the absence of previous records as comprehensive as those now presented, a comparison may be made with the month of October, which, unless special causes of mortality exist, is generally the healthiest month of the year in this country. The rate for October, 1879, was about 17 per 1,000 per annum; during the first quarter of 1880, it has ranged from 17.8 to 20.0, and the mean is only 18.87. Although there is great room for improvement throughout this country in the details of registration and collection of statistics, vital and mortality, it is not to be assumed that the general result as to the death-rate is less reliable than the reports of other countries. At least an average degree of accuracy may be ascribed to the reports used in these tables, which are exclusively from cities in which burial permits are known to be required. Reports from other cities

are given separately in the BULLETIN, and the mean annual death-rate in these cities for the quarter is found to be only 14.9, though the non-requirement of burial permits is the only condition by which they are separated from the places included in the tables.

About thirty cities report regularly the mortality and the population, with distinction of color; several others give the white and the colored mortality, but furnish no estimate of the respective numbers in their population. In any comparison of the mortality in the United States with that of European countries, it is evidently improper to include in our estimates an exotic race which forms a sufficient element in our total population to affect by its higher death-rate the general mortality of the country. The precise extent cannot yet be determined, but taking the reports for the past three months, representing a weekly mean of 1,397,710 white, and 374,152 colored population, it appears that the death-rate for the whites is 17.58, and for the colored 31.47, while the rate for both races together in the same cities is 20.22 per 1,000 per annum. Among the general results yet to be obtained from reports of mortality, are the death-rate and sanitary condition of the rural population of this country. The known prevalence of such diseases as enteric fever and diphtheria in many districts where nature seems to have provided every condition of salubrity in earth and water and air, indicates extensive contamination, both of water-supply and of air, in houses in the country as well as in cities.

TABLE OF PRINCIPAL CAUSES OF DEATH.

Week ending—	Population.	Total deaths.					Consumption and lung diseases.			Consumption.			Lung diseases, acute.			Diphtheria and croup.			Diphtheria.		
		Annual rate per 1,000.	Deaths under 5 years.	Annual rate per 1,000.	Per cent. of total deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	
March 6...	8,420,842	3,188	19.76	1,214	7.52	38.68	907	5.62	28.45	512	3.17	16.06	495	3.07	15.52	205	1.27	6.43	137	0.85	4.30
March 13...	8,382,942	2,871	17.86	1,142	7.14	39.78	939	5.84	32.70	498	3.10	17.35	441	2.74	15.36	187	1.16	6.51	107	0.66	3.73
March 20...	8,496,572	3,095	19.00	1,180	7.24	38.12	996	6.11	32.18	523	3.21	16.90	473	2.90	15.28	180	1.10	5.81	121	0.74	3.91
March 27...	8,542,016	3,250	19.85	1,255	7.66	38.61	998	6.09	30.71	491	3.00	15.11	507	3.09	15.60	202	1.23	6.21	116	0.71	3.57
Totals....	33,842,372	12,404	.....	4,791	.....	.....	3,840	.....	.....	2,024	.....	.....	1,916	.....	.....	774	.....	.....	481	.....	.....
Means....	8,460,593	3,161	19.13	1,197	7.39	38.62	960	5.92	30.95	506	3.12	16.32	479	2.95	15.44	193	1.19	6.24	120	0.74	3.88

Week ending—	Croup.			Scarlet fever.			Diarrhœal diseases.			Enteric fever.			Measles.			Whooping cough.			Malarial fevers.			Small-pox.
	Number of deaths.			Number of deaths.			Number of deaths.			Number of deaths.			Number of deaths.			Number of deaths.			Number of deaths.			
	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	
March 6 . . .	68	0.12	2.13	86	0.53	2.70	56	0.35	1.76	45	0.28	1.41	36	0.22	1.13	34	0.21	1.07	21	0.13	0.66	
March 13 . . .	80	0.49	7.79	63	0.39	1.19	45	0.28	1.57	43	0.27	1.19	65	0.19	2.26	46	0.29	1.60	27	0.17	0.91	
March 20 . . .	59	0.36	1.90	75	0.46	2.42	43	0.26	1.39	47	0.29	1.52	47	0.29	1.52	40	0.24	1.30	28	0.17	0.90	
March 27 . . .	86	0.52	2.65	55	0.33	1.69	56	0.34	1.72	43	0.26	1.32	63	0.38	1.94	55	0.33	1.69	40	0.24	1.24	
Totals . . .	293	0.45	2.79	279	0.43	2.25	200	0.31	1.78	178	0.27	1.43	211	0.32	1.70	175	0.27	1.41	116	0.18	0.93	
Means . . .	73½	0.45	2.36	69½	0.43	2.25	50	0.31	1.61	44½	0.27	1.43	52½	0.32	1.70	43½	0.27	1.41	29	0.18	0.93	

1. Causes of death.—The rate of mortality from consumption and acute lung diseases combined has steadily advanced since the beginning of the year, the mean being 5.09 for January, 5.4 for February, and 5.92 for March; the increase has not been equal for the two, consumption advancing from 2.76 to 3.12, or 13 per cent., while lung diseases have

increased from 2.32 to 2.95, or 27 per cent. The total death rate for March was 19.13, being only 0.26 above the average for the quarter, the increase in pulmonary diseases being partly balanced by a general decline in mortality from the six principal zymotic diseases collectively. The death-rates from these diseases for the three months were

3.02, 3.00, and 2.67, showing a considerable decline in the month of March. Compared with the preceding month the following changes are noted in the mean rates of the several zymotic diseases in March: *Increased*, measles, from 0.30 to 0.32; whooping-cough, from 0.25 to

0.27. *Decreased*, diphtheria, from 0.85 to 0.74; enteric fever, from 0.30 to 0.27; malarial fevers, from 0.20 to 0.18, and scarlet fever, from 0.58 to 0.43. The rate for diarrhoeal diseases remains stationary at 0.31 per 1,000, while croup has declined from 0.50 to 0.45.

TABLE OF DISTRIBUTION OF DISEASES IN THE UNITED STATES.

Sections.	Mean population.	Total deaths.	Annual rate per 1,000.	Consumption and lung diseases.			Consumption.			Lung diseases, acute.			Diphtheria and croup.			Diphtheria.		
				Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
Northeast	4,496,725	7,326	21.24	2,469	6.98	32.88	1,254	3.63	17.13	1,155	3.35	15.77	475	1.38	6.51	277	0.80	3.79
Southeast	1,468,109	2,153	19.12	691	6.14	32.69	390	3.47	18.11	201	2.68	13.99	80	0.71	3.72	55	0.49	2.56
Northwest	2,125,634	2,182	15.32	701	4.29	28.24	313	1.92	12.61	388	2.37	15.63	215	1.32	8.66	147	0.90	5.92

Sections.	Croup.			Scarlet fever.			Diarrheal diseases.			Enteric fever.			Measles.			Whooping-cough.			Malarial fevers.			Small-pox.		
	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
Northeast	198	0.57	2.71	154	0.45	2.11	101	0.29	1.38	83	0.25	1.18	154	0.45	2.11	92	0.27	1.26	54	0.16	0.74	7	0.02	
Southeast	25	0.22	1.16	30	0.27	1.39	58	0.51	2.70	37	0.33	1.72	156	0.14	0.74	38	0.34	1.77	29	0.26	1.35	1	0.01	
Northwest	62	0.41	2.74	95	0.58	3.83	37	0.22	1.49	36	0.32	1.45	37	0.32	1.49	41	0.25	1.65	27	0.16	0.79	.....	.....

2. *Distribution of diseases.*—For the sake of uniformity, the table for March is constructed on the same plan with those for the first two months of the year; some changes will be made in the tables for the next quarter. Comparing the several sections as before, it appears that while there has been a general increase in mortality from consumption and lung diseases, it has been very unequal in the several sections; since February the increase has been, for the Northeast section, from 6.02 to 6.98 or 16 per cent.; for the Southeast, from 6.09 to 6.14, or less than 1 per cent.; and for the Northwest, from 3.56 to 4.29, or 20 per cent. On separating the diseases, it is found that in the Northeast the respective rates of increase for consumption and for lung diseases are 17 and 14 per cent.; in the Northwest, 10 and 38 per cent.; while in the Southeast consumption has declined 1 per cent., and lung diseases increased only 5 per cent. The greatest change is therefore observed in the increase of 38 per cent. in the mortality from acute lung diseases in the Northwest section. The increase in the same diseases for that section from January to February was 74 per cent.; and the explanation suggested last month, referring to the greater fluctuations of temperature in the interior regions on the change of seasons, seems to hold good, since the greatest changes occurred in the latter part of February. Of the zymotic diseases, measles have increased generally; in the Northeast 12 per cent., in the Northwest 16 per cent., while in the Southeast the rate is 55 per cent. higher than in February, though still only 0.14 per 1,000, as compared with 0.45 and 0.22 for the Northeast and Northwest. Whooping-cough, which also shows a general increase in mortality, has remained nearly the same in the Southeast, but advanced 28 and 25 per cent. in the Northeast and Northwest. Diphtheria has remained stationary at 0.90 per 1,000 in the Northwest, while it has declined 11 per cent. in the Northeast, and increased 44 per cent. in the Southeast, though much less fatal there than in higher latitudes. Scarlet fever shows a general decrease, the decline in the sections, in the order of the table, being 17, 23, and 22 per cent. Enteric fever, which in the Northwest has scarcely changed its rate, has declined 19 per cent. in the Northeast, but increased 14 per cent. in the Southeast, where the rate in March was 0.33 per 1,000, as compared with 0.25 and 0.22 in the other sections. Malarial fevers show no appreciable change except in the Southeast, where the rate has declined from 0.35 to 0.26 per 1,000, or nearly 26 per cent. Comparing the mortality from the six zymotic diseases in the several sections, a decline is observed since February. In the Northeast the rate has diminished from 10.4 to 9.5 per 1,000, or 13 per cent.; in the Northwest, from 10.6 to 9.9, or 11 per cent., and in the Southeast, from 7.6 to 7.3, or 4 per cent. Of the 8 deaths from small-pox reported in March, 7 were in Philadelphia and 1 in the District of Columbia. The rapid lighting up of widely-distant foci of epidemic measles has been a notable feature in the movement of zymotic diseases, and in most cases the origin of infection cannot be traced out. But, as Dr. Snow observes with reference to the similar spread of scarlet fever earlier in the year, these negative facts offer no support to any theory of spontaneous or *de novo* local generation of the morbid cause.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

EVANSVILLE, IND., April 14.—Dr. J. W. Compton reports scarlet fever nearly disappeared and measles quite prevalent. He incloses statistics of the 13 public school buildings of the city. They average 9 rooms each, and the mean cubic space per pupil is 285 feet, the least being 180 and the greatest 509 feet. The whole number of pupils is 4,724.

INDIANOLA, IOWA.—Dr. T. S. Parr forwards a copy of an act approved March 26 to establish a State board of health. The board is to be composed of nine members, the attorney-general, a civil engineer, and seven physicians. Regular meetings in May and November. An appropriation of \$5,000 is made to cover salary of secretary (not over \$1,200 per annum) and all incidental expenses of the board. The act gives ample authority to the board, and requires reports of deaths and births from physicians and midwives, under a penalty of \$10; in the absence of attendance, reports are required of a parent, of the nearest of kin (not a minor), or of the householder in whose residence the birth or death occurs. Section 13 provides that the mayor and aldermen of each incorporated city, the mayor and council of any incorporated town or village, or the trustees of any township, shall have all the powers and perform all the duties of a board of health within their several localities. Each local board is to appoint a competent physician, and is to report semi-annually to the State board. Cases of contagious disease are to be isolated, and the civil authorities are required to enforce such proceeding if necessary.

JEFFERSON BARRACKS, MO.—Surgeon E. Vollum, United States Army, reports, under date of April 10, a case of *varioid* in a child of one of the soldiers at Saint Louis powder depot, adjoining the post. The origin of the disease has not been traced.

NEW ORLEANS, LA., March 29.—Dr. J. Holt, having carefully investigated the deaths of two children in New Orleans who were reported last week to have died of yellow fever, finds that both were cases of scarlet fever of malignant type.

ORO CALIENTE, N. MEX.—The Surgeon-General of the United States Army forwards a report of Acting Assistant Surgeon C. A. Sewall, from the above station, giving a detailed account of an outbreak of measles among the soldiers. The disease first appeared among the colored recruits March 6; ten of them were attacked, and afterwards two white men. At first a separate camp was established at 200 yards distance, but the disease having appeared in the main camp, and danger from hostile Indians rendering concentration of the men advisable, isolation was effected by setting apart a room in the field-hospital building. One death occurred from inter-current pneumonia. March 25 one white and three colored soldiers were still sick.

SHELBYVILLE, TENN.—Dr. C. C. Fite, under date of April 10, reports that the health of that portion of Tennessee has been very good for several months, with the exception of cases of a fever called by some physicians "typho-malarial," by some "typhoid," and by others "remittent." The disease has prevailed to some extent in Shelbyville, but more in neighboring towns and through the country.

HAVANA, CUBA.—Advices to April 7 report only 5 deaths from yellow fever for the week ending at that date, but the disease is slowly increasing on shore; it has not yet appeared in the bay.

ABSTRACTS FROM CONSULAR REPORTS.

CALLAO, PERU.—Reports for the first two months of 1880 show in January a total of 105 deaths, of which the following causes may be noted: Malarial fevers, 20; consumption, 12; lung diseases, 13; small-pox, 6; dysentery, 7; diseases of the brain and nervous system, 10; and injuries, &c., 26. In February there were 108 deaths. From fevers, 20; consumption, 12; lung diseases, 13; small-pox, 8; dysentery, 6; diseases of brain, &c., 6; and injuries, &c., 30.

JERUSALEM AND JAFFA, SYRIA.—Under date of March 3, United States Consul J. G. Willson sends a full account of his consulate, so far as the facts can be obtained, in the absence of any vital or mortality records by the authorities. The population of Jerusalem is estimated at 25,500, of whom 7,000 are Mohammedans, 5,000 Christians, and 13,500 Jews. Being a mountain city, the place would be very healthy but for neglect of ordinary hygienic measures by the people, especially in the Jewish quarter, where drainage and ventilation are the worst. The death-rate is not high in proportion to the ratio of sick, the diseases prevailing from July to November being mostly malarial fevers, which are not often fatal. The "Syrian fever" is of a typhoid type, and often follows *sun-stroke*; it may run its course in three weeks, or extend to as many months, being scarcely amenable to treatment. There are sixty charitable associations in the city among Jews, Mohammedans, Christians, Greeks, Latins, Copts, Syrians, Armenians, and the English and German Protestant missions, and multitudes of the people, particularly of the Jews, are dependent in part or entirely upon charity. The rainy season is from October to April, when the fall-rain is from 15 to 28 inches, the mean being 23 inches; the minimum, as was the case last year, interferes much with agriculture, and causes very short crops. Of the past three winters, the first was very wet, the second dry and warm, and the last unusually cold. Ice formed an inch thick in a night, and snow fell about Christmas to a depth of fifteen inches. The summers are almost rainless, and the heat extreme. Dr. Chaplin incloses a full report of diseases and deaths in his hospital, from which it appears that during the year 1879 there were 6,684 cases, including out-patients, and 516 admitted. Of the latter, 15 died, or less than 3 per cent. Of the 6,541 cases of all kinds, 2,556 were malarial fevers; 362 surgical cases; 373 ophthalmia; 1,139 diarrheal and gastric diseases; 219 rheumatism; 465 of the brain and nervous system; and only 443 of lung diseases. Dr. Chaplin states that true typhoid (enteric) fever is very rare, but malarial fevers often assume a "typhoid" form; relapsing fever is sometimes met with. Diarrhea and dysentery are very common; cases of the latter almost always come from the country, and tourists are especially liable to it. Diphtheria is very common and fatal, and in its entire absence a fatal form of croup often prevails. The healthiest month is April, and the rate of diseases increases to October, when it again declines.

JAFFA.—The population of this port is about 16,000, composed of 9,000 Mohammedans, 5,000 native Christians, 1,500 Jews, and 500 Europeans. The general health of the city is good, owing to favorable conditions of climate and location, rather than to any action on the part of the people. Cholera visited the city in 1836, but no epidemic has prevailed here since. No statistics are kept by the authorities, but the death-rate for 1879 may be estimated at 33 per 1,000. Marital permits are nominally required, but the law is not enforced; births and marriages are regarded as entirely private affairs, and never recorded by the authorities. Malarial and diarrheal diseases are most common, and sporadic cases of small-pox and of diphtheria occur. A few wretches still perpetrate the historical leprosy. Yellow fever is unknown here. The mass of the people are sunk in superstition and fatalism, giving occupation to many "sorcerers" or magicians, who pretend to cure by charms. There are also the native quacks, whose treatment consists in the application of hot irons, or of leeches, cautery, and bleeding. There are three competent physicians, a German, a Greek, and a native graduated at the American College at Beyrout. They are not overworked in attending to the European colony and the few natives who have the sense to seek their advice. A hospital was founded, with 12 beds, in 1870, by the Germans; another, with 22 beds, in 1877, by a Russian baron, and a benevolent English lady has this year founded a third. These are all free, and offer gratuitous advice and medicines to all, without distinction of race or religion.

MAZATLAN, MEXICO.—United States Consul E. G. Kelton reports 75 deaths for the month of February, giving an annual rate of 63.2 per 1,000, the population being about 13,000. Twenty-five deaths were under 12 years of age, and 12 of these were from *typhus*. Sanitary condition of the place considered good.

MELBOURNE, AUSTRALIA.—United States Consul O. M. Spencer forwards reports showing that in this city and district, comprising an area of ten miles radius and a population of 256,180, there were 438 deaths in the month of December, 1879; annual death-rate, 20.5 per 1,000. One death was from cholera, 12 from typhoid fever, and 28 from other zymotic diseases. The average of deaths for December has been about 526 for several years past, giving an annual rate of 24.6 per 1,000.

MEXICO (CITY).—The official report for the month of September, 1879, gives a total of 715 deaths and 21 still-births. The population not being given, only the relative mortality can be estimated from the following diseases: Consumption, 46, or 6.13 per cent. of all deaths; lung diseases, 70, or 9.8 per cent.; diarrheal diseases, 161, or 22.5 per cent.; typhus and typhoid fevers, 12; malarial fevers, 9; small-pox, 7; and scarlet fever, 1.

MONTVIDEO, URUGUAY.—United States Consul A. L. Russell forwards the following report: For November, 1879, deaths, 301; typhoid fever 3, other zymotic diseases, 7. Mean temperature, 65°. In December, 439 deaths; typhoid fever 12, other zymotic diseases, 7. Mean temperature, 68°. In January, 1880, there were 294 deaths; small-pox 1, typhoid fever 17, other zymotic diseases, 8. Mean temperature, 70°. Population, 111,500; total deaths for three months, 1,134; annual death-rate, 40.7 per 1,000.

NAPLES, ITALY.—United States Consul B. O. Dimean sends a report for the month of January, showing a total of 2,079 deaths in a population of 461,571; this gives an annual death-rate of 54 per 1,000. The thermometer has been from 32° to 34° most of the time, and the unusual cold, for which the people are not prepared, with the great destitution prevailing among the poorer classes, chiefly accounts for the high rate of mortality. Typhoid fever 17, and diphtheria 31, are the only causes of death specified; lung diseases are stated to be the cause of nearly half the deaths. Sanitary condition, "probably the worst in Europe."

NASSAU, BAHAMAS.—United States Consul T. J. McLain, jr., in his reports from March 13 to 28, notes two deaths from the peculiar fever already mentioned as prevailing more or less since December, and concerning which the physicians seem only to agree that it is not *yellow fever*. Some now term it "malignant typhus." A child of 8 years died of this fever, also the wife of Dr. Aiken, from Minnesota; in the latter case, the attending physician diagnosed "sporadic yellow fever." No other cases among the 300 invalids and tourists now on the island from the United States.

NEWCASTLE-ON-TYNE, ENGLAND.—The consular report of March 14 notes that scarlet fever is still epidemic, though it caused but 3 deaths out of a total of 60 for the week. Other causes were, consumption 4, and lung diseases 12; no small-pox nor measles.

NEW ZEALAND.—The report of the registrar-general shows for the month of November, 1879, a total of 124 deaths in 15 boroughs, having a population of 120,585; annual rate, 12.3 per 1,000. Births in November, 471; annual rate, 47.2 per 1,000. Deaths under 5 years, 59, or 47.5 per cent. Causes of death are given in 4 boroughs, with 71,077 population. In these, 65 deaths occurred; annual rate 10.9. Zymotic diseases caused 11 deaths, or 17 per cent., consumption 3, or 4.6 per cent., lung diseases 15, or 23 per cent.; the deaths under 5 years were 11, or 17 per cent.

In December, there were 170 deaths in the 15 boroughs; annual rate, 16.9 per 1,000. Births, 448; annual rate, 44.1 per 1,000. Deaths under 5 years, 90, or 53.5 per cent. In the 4 boroughs, the deaths were 20; annual rate, 15.3 per 1,000. Of these, zymotic diseases caused 31, or 74 per cent., consumption 6, or 6.6 per cent., lung diseases 8, or 8.8 per cent.; deaths under 5 years, 7, or 7.7 per cent. Mean temperature in November, 62°; in December, 65°. It is to be noted, that the "zymotic diseases" reported include diarrheal diseases, which are about one-half, and which may or may not belong to the zymotic class.

NINGPO, CHINA.—United States Consul E. C. Lord sends reports for the weeks ending February 7, 11, and 21. The mean temperature, weekly, was 11°, 42°, and 46°. No epidemic prevails, but dysentery and malarial fevers are still common, and the most of the zymotic diseases occur, including small-pox, which is most prevalent in the spring, as the people resort to inoculation at that season. No statistics are to be obtained as to number of deaths.

PARY, BRAZIL.—United States Consul A. C. Prindle reports 112 deaths in the month of February; one from yellow fever, and none from any other contagious disease. Annual death rate, 33.6 per 1,000, population being 60,000. Various forms of malarial fever very prevalent.

PORT LOUIS, MARTINICUS.—United States Consul H. C. Marston sends a report giving the mortality for the month of January for five years, from 1870 to 1880, both years included. The deaths were, respectively, 632, 612, 576, 391, and 781; the corresponding rates were 21.12, 21.24, 20.65, 22.21 and 26.10. Of the 3,914 deaths, 1,392, or nearly 35 per cent., were from "fever"—probably malarial.

SABANILLA, UNITED STATES OF COLOMBIA.—United States Consul P. Pellet reports, under date of March 10, that small-pox at Sabanilla is gradually decreasing, but he awaits better reports from the leading physicians before resuming the issue of clean bills of health, which are already given by some other consuls at that port.

The following reports, for the week ending April 10, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 4,000; deaths, 5; under 5 years, 2; enteric fever 1, whooping-cough 1. Edgartown, Mass., 1,400; consumption 1. Morgan City, La., 2,500; no deaths. Murfreesboro, Tenn., 3,500; deaths, 3; under 5 years, 1; consumption 2. Saint Augustine, Fla., 2,500; no deaths. Shelbyville, Tenn., 2,000; one death, under 5 years. Total population, 15,900; deaths under 5 years, 4; total deaths, 10; annual rate per thousand, 32.8.

The following reports, for the week ending April 10, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 4; under 5 years, 2; consumption 1, lung diseases 3. Alleghany, Pa., 75,000; deaths, 20; under 5 years, 12; consumption 1, diphtheria 1, lung diseases 3, whooping-cough 1. Bath, Me., 10,000; consumption 1. Boulder, Colo., 3,500; no deaths. Brattleborough, Vt., 6,500; one death. Calais, Me., 7,000; deaths, 4; consumption 1; pneumonia 1. Cambridge, N. Y., 1,850; deaths, 2; consumption 1; pneumonia 1. Chatham, Conn., 3,000; no deaths. Chillicothe, Mo., 4,750; deaths, 2; pneumonia 1. Circleville, Ohio, 6,400; consumption 1. Clinton, Mich., 1,200; no deaths. Columbus, Ga., 10,060; deaths, 4; consumption 1, puerperal 1. Dallas, Tex., 20,000; diarrhea 1, under 5 years. Dunkirk, N. Y., 8,000; deaths, 8; consumption 2, diphtheria 1. East Haven, Conn., 1,200; no deaths. Fairfield, Conn., 4,000; deaths, 2; pneumonia 1. Fayette, Miss., 300; no deaths. Greenville, Ala., 4,500; no deaths. Helena, Mont., 3,500; deaths, 2; under 5 years, 1; diphtheria 1, pneumonia 1. Huntington, Pa., 4,500; no deaths. Huntingdon, Tenn., 850; puerperal 1. Indianola, Tex., 900; no deaths. Iuka, Miss., 1,000; no deaths. Jefferson, Tex., 3,000; one death. Kenosha, Wis., 5,000; deaths, 5; under 5 years, 1; consumption 2, diarrhea 1, pneumonia 1. Lansingburgh, N. Y., 7,150; deaths, 2; enteric fever 1. Lebanon, Pa., 9,000; deaths, 4; under 5 years, 1; consumption 1, lung diseases 2. Little Falls, N. Y., 5,900; deaths, 3; under 5 years, 1; consumption 1, pneumonia 1. Louisiana, Mo., 5,200; no deaths. Lynchburg, Va., 21,000; deaths, 6; under 5 years, 2; lung diseases 2. Madison, Ind., 12,000; deaths, 2; under 5 years, 1; consumption 1. Marquette, Mich., 4,000; one death. Meridian, Miss., 5,500; diarrhea 1. Milledgeville, Ga., 4,000; no deaths. Mount Pleasant, Iowa, 5,000; one death. Natchez, Miss., 10,000; one death. Nebraska City, Nebr., 5,200; deaths, 3; consumption 1. Ocala, Fla., 1,000; no deaths. Okolona, Miss., 3,000; consumption 1. Oshkosh, Wis., 18,000; deaths, 4; pneumonia 1. Painesville, Ohio, 5,000; one death, under 5 years. Phenixville, Pa., 6,000; deaths, 3; under 5 years, 2; consumption 1, pneumonia 1. Pontotoc, Miss., 600; no deaths. Port Gibson, Miss., 1,100; deaths, 2; old age 1. Port Jervis, N. Y., 10,000; deaths, 2. Portsmouth, Va., 14,000; deaths, 6; under 5 years, 3; consumption 1, diphtheria 1, pneumonia 1. Rock Island, Ill., deaths, 4; no population given. Rockland, Me., 7,000; consumption 1. Santa Cruz, Cal., 5,000; deaths, 2; under 5 years, 1; consumption 1, diarrhea 1. Springfield, Ohio, 23,000; deaths, 6; under 5 years, 1; consumption 2. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths, 3; under 5 years, 1. Summit, Miss., 2,250; one death. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; deaths, 2; diphtheria 1, pneumonia 1. Tuscaloosa, Ala., 4,000; no deaths. Vaco, Tex., 11,000; deaths, 8; diarrhea 1, malarial fever 1, lung diseases 3. Waterbury, Conn., 16,000; deaths, 4; under 5 years, 1; consumption 1, pneumonia 1. Watertown, N. Y., 12,000; deaths, 2. Waxahatchie, Tex., 2,000; no deaths. Wesson, Miss., 2,000; one death, under 5 years. Winchester, Va., 5,500; no deaths. Winona, Minn., 10,000; no deaths. Xenia, Ohio, 7,500; deaths, 3; consumption 1, old age 1. Youngstown, Ohio, 17,000; deaths, 4; under 5 years, 3; enteric fever 1, lung diseases 3. Total population, 500,713; deaths under 5 years, 38; total deaths, 133; annual rate per 1,000, 11.4.

TO BOARDS OF HEALTH.

The National Board has addressed to all boards of health of which the name and address are known, a circular requesting information on the following points. Boards which have not received the circular are also respectfully requested to fill and forward the following schedule:

- City or State.
- Name of board.
- Number of members.
- Boards within which its authority is exercised.
- When organized.
- By whom is the board selected?
- Names of officers and members.
- How often does the board meet?
- Does the board publish its reports?
- Post-office address.

NORFOLK, Va.—The increased death rate of this city in 1879 having attracted the attention of the authorities the matter was referred to the Norfolk Medical Society, which submits an able report to the city council. For six years previous to 1879 there had been an annual decrease in the number of deaths, which in 1878 was 504, white 249, colored 255. In 1879 there were 754 deaths, 327 white and 427 colored. Deaths under 5 years in 1878 were 225; in 1879, 333. The population being estimated at 24,000 (as reported to the BULLETIN in 1879), the death rate for that year would be 31.4. This estimate is considered too low; but taking 25,300 as near the true population, the rate for 1879 would be 29.8, which is still too high. The relative mortality of white and colored, about 21 and 37 per 1,000, is nearly the same as is observed in other cities. No relation can be traced between the high death rate of 1879 and the city water-supply, nor is any special local defect of sanitary conditions to be discovered peculiar to that year. The society, however, takes the opportunity to urge some improvements in drainage and in the privy system, &c. The meteorological conditions of 1879 were unfavorable; the winter was unusually cold; but little rain fell from March to the middle of August, when a very heavy rainfall was followed by another drought through the fall and winter. The total rainfall was 16 inches less than in 1878. The report concludes by calling attention to the unsanitary mode of living among the colored population, and to the fact that of the 427 deaths in that race in 1879 medical attendance was wanting in 157 cases, while in many others the physician was only summoned in time to sign the certificate of death. It is estimated that nearly one-half of the deaths among the colored people occur without proper medical attendance. The population adopted in the table accompanying the report is 11,892 white, 11,304 colored; total, 26,193.

ST. THOMAS, WEST INDIES.—United States Consul V. V. Smith reports 32 deaths for the four weeks ending March 15, population 15,000; annual death-rate 27.8 per 1,000. Deducting 5 still-borns, the rate is 23.1. Among the causes of death were, consumption 7, typhoid fever 2, old age 3. Mean temperature 73°.

SANTA CRUZ, CANARY ISLANDS.—United States Consul F. W. Lavers reports 9 deaths in January and 8 in February, in a population of 6,070; annual rate, 16.8 per 1,000. Mean temperature, 66 and 68 degrees. No epidemic or contagious disease reported.

VALPARAISO, CHILE.—United States Consul L. H. Foote reports a great improvement in the health of this city, only 546 deaths occurring in February, against 891 in January. Small-pox had 317 victims in January, and only 191 in February. Annual death-rate for February, 61.8, against 95.7 the preceding month. Population, 101,088.

REPORTS FROM HOSPITALS IN THE UNITED STATES FOR THE WEEK ENDING APRIL 10, 1880.

Name of hospital.	Place.	Character of hospital.	Number of beds.	Totals.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
				Con- sump- tion.	Croup.	Diar- rheal diseases.	Diph- theria.	Fever, enteric.	Fever, malarial.	Fever, scarlet.	Lung diseases acute.	Measles.	Puer- peral dis- eases.	Small- pox.	Totals.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.			
1880.																		
Canada	Kingston	16,000	Apr. 10	22	71.7													32.4
Bermuda	Hamilton	14,867	Apr. 6	1	14.8													66.7
Do.	do.	14,867	Apr. 13	1	14.8													68
Cuba	Havana	185,437	Apr. 10	119	31.8													77
Guadeloupe	Point a Pitre	22,919	Mar. 13	33	75.1													25.5
Do.	do.	22,919	Mar. 20	32	50.1													26
Do.	do.	22,919	Mar. 27	13	29.6													27
Mexico	Matamoros	16,000	Mar. 27	7	12.7													72.3
Do.	do.	16,000	Apr. 3	7	12.7													74.1
Falkland	Port Stanley	1,336	Jan. 26	1	8.4													57
Do.	do.	1,336	Feb. 2	1	8.4													52
Do.	do.	1,336	Feb. 9	1	8.4													59
Do.	do.	1,336	Feb. 16	1	8.4													59
Do.	do.	1,336	Feb. 23	1	8.4													60
St. Helena	Jamesstown	6,241	Feb. 7	1	8.4													.....
Do.	do.	6,241	Feb. 14	3	25.2													.....
Do.	do.	6,241	Feb. 21	5	42.1													.....
Do.	do.	6,241	Feb. 28	1	8.4													.....
Do.	do.	6,241	Mar. 6	1	8.4													.....
Do.	do.	6,241	Mar. 13	1	8.4													.....
Do.	do.	6,241	Mar. 20	1	8.4													.....
Ireland	Belfast	230,000	Mar. 27	112	25.4													33.0
Do.	do.	230,000	Apr. 3	135	30.6					14	4	17	3					43.3
Do.	Dublin	314,666	Mar. 27	221	36.5									1				41.4
Do.	do.	314,666	Apr. 3	259	42.8									4				39
Scotland	Glasgow	589,588	Mar. 27	286	25.3													46.3
Do.	Dundee	155,000	Mar. 27	75	25.2									4		203	2	32
Do.	do.	155,000	Apr. 3	32	13.6									1				28.7
England	London	3,664,149	Mar. 27	1,565	21.4					4		14		2		156		42.4
Do.	Shedfield	297,128	Mar. 27	125	42.0													39.7
Do.	Bristol and Clifton	213,500	Mar. 27	114	34.9													41.5
Do.	Liverpool	247,000	Mar. 27	127	25.2													42.6
Do.	do.	244,656	Apr. 3	284	37.2							12	4	3	1	122	24	47.2
France	Rouen	101,902	Mar. 27	92	45.8													.....
Do.	do.	101,902	Apr. 3	60	29.8													.....
Do.	Lyons	342,415	Mar. 29	196	29.8							7		2				.....
Do.	Navyre	92,068	Mar. 27	52	29.5													49.6
Do.	Paris	1,988,806	Mar. 25	1,296	26.0													95
Switzerland	Zurich	22,103	Mar. 27	11	26.0													4
Holland	Rotterdam	159,578	Mar. 27	92	31.9													.....
Do.	do.	159,578	Apr. 3	82	28.5									1				.....
Germany	Berlin	1,087,500	Mar. 29	524	25.1									8	2	148	58	35.1
Do.	Bremen	95,000	Mar. 27	33	29.7													13
Do.	Mannheim	59,500	Apr. 3	31	32.0													42.1
Belgium	Brussels	465,171	Mar. 27	294	26.4								2	3			10	41
Saxony	Dresden	218,000	Mar. 29	119	28.5												4	39
Do.	do.	218,000	Mar. 27	106	25.4											9	9	35.9
Do.	Leipzig	169,000	Mar. 27	77	25.9													6
Do.	do.	169,000	Apr. 3	81	25.1													38.8
Denmark	Copenhagen	105,274	Mar. 17	112	24.9													5
Italy	Leghorn	98,014	Apr. 3	55	29.3													33.8
Austria	Vienne	719,245	Mar. 27	47	31.9													27.5
Russia and Poland	Warsaw	236,293	Mar. 29	214	35.2													.....
Sweden	Stockholm	102,129	Mar. 29	82	26.5													.....
Norway	Christiania	113,000	Mar. 29	48	22.2												8	34.9
Barbary	Tripoli	20,000	Mar. 20	7	18.3													61.2
Morocco	Tangier	15,000	Feb. 7	14	48.7													54.1
Do.	do.	15,000	Feb. 14	17	36.1													54.5
Do.	do.	15,000	Feb. 21	12	55.7													53
Do.	do.	15,000	Feb. 28	14	48.7													55.1
Cape Colony	Cape Town	35,000	Mar. 15	18	62.6													72

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those whose report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

National Board of Health

BULLETIN.

Vol. 1.]

WASHINGTON, D. C., SATURDAY, MAY 1, 1880.

[No. 44.]

WEEKLY SUMMARY OF MORTALITY.

The population represented in the reports for the week ending April 17 is 2,092,682, or 247,880 less than that for the preceding week, being reduced by the absence of reports from San Francisco and other cities. The death-rate has been raised from 20.4 to 20.9 per 1,000 by a general increase in mortality from all but two of the principal causes of death included in the tables. Enteric fever has declined from 0.39 to 0.36, or 8 per cent., and measles, having reached 0.44 last week, now stand at 0.42, or 5 per cent. lower than before. The other zymotic diseases have increased as follows: Diphtheria, from 0.60 to 0.63, or 5 per cent.; malarial fevers, from 0.19 to 0.26, or 37 per cent.; scarlet fever, from 0.16 to 0.59, or 28 per cent.; and whooping-cough, from 0.25 to 0.29 per 1,000, or 16 per cent. The six zymotic diseases combined show an increase in mortality from 2.31 to 2.55 per 1,000, or 9 per cent. Consumption and acute lung diseases continue to increase in fatality, as they have done for several weeks, contributing chiefly to the gradual and steady increase in the general death-rate of the country. Since last week, the rate for consumption has advanced from 2.86 to 2.95, or a little over 3 per cent., while lung diseases have only risen from 3.16 to 3.18. In the distribution of the several diseases there is little to be added to previous observations, excepting the prevalence of zymotic diseases in two cities not far apart, and in some respects similarly situated. In Pittsburgh, Pa., 33 deaths are reported this week from zymotic diseases, and 14 of these are from enteric fever; in Wheeling, W. Va., enteric fever and measles caused 8 out of a total of 15 deaths. Reducing these figures to parts of the population, it is found that the death-rate from zymotic diseases in Pittsburgh is this week 11.1, and in Wheeling 14.1 per 1,000 per annum; the rate for the whole country is only about 2.5, and is less than 3.5 in nearly all the large cities.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

DALLAS, TEX., April 23.—Dr. J. L. Carter, health officer, sends his annual report, showing a total of 221 deaths and 12 still-births during the year 1879. Annual rate 11.05, estimating the population at 20,000; causes of death not stated.

ERIE, PA., April 19.—Dr. E. W. Gerner, health officer, sends to us of certificates of death and of burial permits used in that city. The latter are issued free of charge, and the returns of mortality, with all details of name, age, &c., of deceased are published weekly in the city papers. There is no ordinance for the registry of births and marriages, and, as there is no State board of health, there is little prospect of having any. Dr. Gerner thinks that a small fee, as 10 cents for each death, birth, or marriage reported by the mid-taker, midwife, justice of the peace, or clergyman, would go far towards securing complete returns.

FORT BLISS, TEX., April 9.—Dr. M. E. Taylor, United States Army, reports a case of varioloid in a private at that post. The origin of the contagion is not yet known, but small-pox is said to exist at several points not very distant from the fort. All precautions taken to guard against spread of the disease.

FORT BOWIE, ARIZ. TER., April 7.—Dr. J. J. Carroll, United States Army, reports a case of varioloid at this post. The infection is sup-

posed to have been brought from Silver City, N. Mex., where small-pox is prevailing. Strict quarantine has been established, and all due precautions taken to protect the troops from the disease.

GREEN COVE SPRINGS, FLA.—Dr. W. D. Colman, under date of April 21, announces the formation of a board of health at this place, which is a resort for visitors, on account of its sulphur springs. But few now remain, the weather having become very warm and the temperature rising daily to 80°. One death from tetanus following gunshot wound, and one from old age, are reported for the past week.

MEMPHIS, TENN.—Dr. S. H. Collins reports, under date of April 26, a death in Memphis from undoubted "typho-malarial" fever.

NATCHEZ, MISS.—Dr. T. S. Sharpe, health officer of Adams county, sends a report of mortality in Natchez for the year 1879. Population 10,000; deaths 116, including 1 premature births and 3 from accidents. Of the 109 deaths from disease there were 22, or 20.2 per cent., from consumption; from lung diseases 16, or 11.5 per cent.; croup 1, diphtheria 1, malarial fever 1, enteric fever 5, whooping cough 4, diarrhoea 1, dysentery 2. Diseases of the brain and nervous system 8, of the heart 11, from dropsy 7, and from debility 9. Of the 116 deaths from all causes 56 were without regular medical attendance; 30 were under 5 years; 56 were white and 60 colored. The total death-rate was 11.6 per 1,000; white population 7,000; death-rate 2.0; colored population 3,000; death-rate 20.0 per 1,000. The causes of death are not stated separately for the two races, but the excessive mortality from consumption was probably largely on the side of the colored population.

NORFOLK, VA., April 19.—Dr. James D. Galt, health officer, incloses form of certificates of death, which are returned to the health officer of that city when filled. Once a year a statement of births and marriages for the preceding twelve months is made by the board of health to the mayor of the city and embodied in his annual message to the councils. Dr. Galt does not state what provision exists for securing accurate returns of births.

WHITING, W. VA., April 18.—Dr. T. O. Edwards reports both measles and enteric fever very prevalent and fatal. Deaths from measles since January 1 (109 days), 11; annual rate per 1,000 of population, 4.26, the mean for the whole country for the same period being about 0.32, or little more than one sixteenth of the death-rate from measles in Wheeling. The deaths under five years for the same time were 116, or at the annual rate of nearly 13 per 1,000, the mean rate for the country being about 7.2. The mortality from enteric fever has been exactly one half of that from measles. The authorities are making efforts to improve the evidently defective sanitary condition of the city.

AFSHANG, MICH.—Dr. E. Batwell, health officer of this town, reports to the State board of health two cases of small-pox, in which the contagion was ascribed to rags at the paper mills. A girl working in a paper-mill, and her brother, who was daily about the rag-room, were seized with variola at the same time. Several neighbors were exposed before the nature of the disease was made known. As soon as the State board of health was informed of the cases, Dr. H. B. Baker, the secretary, visited them and enforced the proper measures to prevent the spread of the disease.

ABSTRACTS FROM CONSULAR REPORTS.

BARBADOS, WEST INDIES.—United States Consul W. H. Polley reports that most vessels leaving Bridgetown for the New England States and for West Indian ports go without bills of health, as the captains say that bills are not required of them by the authorities. There were 163 deaths during the month of March, in a population of 20,000, being at the annual rate of 61.8 per 1,000. Mean temperature 72°. No epidemic or contagious diseases prevailing, and general sanitary condition reported good.

BATAVIA, JAVA.—Under date of March 10, United States Consul O. Hatfield reports that no disease has appeared this year of a character to interfere with the granting of clean bills of health, and that unless a special report is made to the contrary, the port may at all times be assumed to be free from contagious diseases in epidemic form.

CANTON AND NINGPO, CHINA.—The consular reports from these cities are regularly received, but, in the absence of statistics, they contain only the information that no contagious disease is epidemic in either consulate.

COATICOOK, CANADA.—Under date of April 19, United States Consul E. Vaughan states that weekly reports cannot be filled, as no data exist at that place, the authorities requiring no record of vital, mortuary, or sanitary statistics. The municipality is about ten miles from the northern boundary of Vermont, on the line of the Grand Trunk Railroad, and has about three thousand inhabitants, nearly equally divided between French and English speaking. The settlement is in a narrow valley, with pure-water supply from neighboring springs; the climate and soil are favorable to health, and epidemic diseases rarely visit the place. At the request of the consul, the mayor and the board of health (which exists only in name), are considering the question of establishing a record of vital statistics.

NASSAU, BAHAMAS, April 10.—United States Consul T. J. McLain reports a sporadic case of yellow fever, not likely to prove fatal. Most of the American invalids and visitors have left. Mean temperature 79°, for the week ending April 10.

SANTOS, BRAZIL.—United States Consul W. T. Wright reports only 3 deaths for the 3 weeks ending March 20, in a population of 11,000. Mean temperature 81°, and much rain. The rain-fall during the month of February is stated at 24 inches.

TAMPICO, MEXICO, March 20.—United States Consul A. G. Cassard reports small-pox still epidemic, and that the city authorities continue to issue clean bills of health. Masters of vessels are compelled to take these municipal bills of health, which are made out "clean" by the authorities in order to keep up, as far as possible, the sanitary reputation of the port. Such being the case, the captain will not take a consular bill of health, which might subject him to some detention at his port of destination, especially as there is no law to compel him to do so. Under these circumstances the consul has protested in writing to the mayor, and received assurances that the objectionable practice shall be discontinued; the consul, however, recommends some action on the part of our government, and asks for instructions.

TRIPOLI, BARBARY.—Advices to March 27 report small-pox, which had been epidemic for several months, nearly disappeared from the capital at present, but still raging in other towns of the regency of Tripoli.

VERA CRUZ, MEXICO.—United States Consul S. T. Trowbridge forwards the official report for the month of March, giving a total of 34 deaths in a population of 15,550. Annual death-rate 70.1 per 1,000. Of the decedents 89 were Mexicans and 1 Spaniards. Among the causes of death noted are, consumption 13, or 14 per cent., lung diseases 6, of digestive organs 10, malarial fevers 10, small-pox 3, and yellow fever 1. Of the last named the consul observes that the diagnosis was very doubtful.

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REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING APRIL 17, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Croup.	Diarrhoeal diseases.	Diphtheria.	Enteric.	Malarial.	Scarlet.	Yellow.	FEVER.					All zymotic diseases.	Accidents.
Cal Sacramento	25,000		4	8.3															
Los Angeles	14,000		12	7.4															
Vallejo	7,500	1	3	20.8															
Totals	8,092,682	1,278	3,245	20.9	457	61	52	97	56	41	92		540	65	25	6	45	466	81

NOTE.—Boston has 370,000 white, 5,000 colored; deaths, 149 white, 4 colored. Rate per 1,000, white 21.9, colored 41.7. Providence has 98,200 white, 3,800 colored; deaths, 47 white. Rate in table. St. Louis has 7,250 white, 250 colored; deaths, 6 white. Rate in table. Wilmington, Del., has 38,000 white, 6,000 colored; deaths, 17 white, 3 colored. Rate per 1,000, white 23.3, colored 26.0. Baltimore has 343,715 white, 36,285 colored; deaths, 106 white, 34 colored. Rate per 1,000, white 15.93, colored 31.5. District of Columbia has 114,000 white, 56,000 colored; deaths, 41 white, 33 colored. Rate per 1,000, white 18.7, colored 30.9. Norfolk has 14,900 white, 11,000 colored; deaths, 6 white, 2 colored. Rate per 1,000, white 21.0, colored 13.8. Richmond has 46,000 white, 34,000 colored; deaths, 9 white, 11 colored. Rate per 1,000, white 10.2, colored 16.8. Lynchburg has 10,000 white, 11,000 colored; deaths, 3 white, 8 colored. Rate per 1,000, white 15.6, colored 37.9. Wilmington, N. C., has 6,714 white, 10,286 colored; deaths, 2 white, 5 colored. Rate per 1,000, white 15.5, colored 25.3. Charleston has 25,000 white, 32,000 colored; deaths, 7 white, 28 colored. Rate per 1,000, white 14.6, colored 43.6. Savannah has 18,200 white, 15,020 colored; deaths, 3 white, 14 colored. Rate per 1,000, white 8.5, colored 48.6. Augusta has 16,176 white, 10,824 colored; deaths, 4 white, 5 colored. Rate per 1,000, white 12.8, colored 24.1. Atlanta has 25,372 white, 16,175 colored; deaths, 5 white, 8 colored. Rate per 1,000, white 10.2, colored 25.7. Jacksonville, Fla., has 7,000 white, 5,000 colored; deaths, 3 white, 1 colored. Rate per 1,000, white 22.5, colored 10.1. Mobile has 28,000 white, 12,000 colored; deaths, 3 white, 6 colored. Rate per 1,000, white 5.5, colored 26.0. Seina has 3,082 white, 3,988 colored; deaths 1 white. Rate in table. New Orleans has 155,000 white, 55,000 colored; deaths, 21 white, 33 colored. Rate per 1,000, white 27.2, colored 31.3. Shreveport has 4,500 white, 5,000 colored; deaths, 1 white, 3 colored. Rate per 1,000, white 11.6, colored 31.3. Austin has 12,000 white, 4,000 colored; deaths, 1 white. Rate in table. Memphis has 16,765 white, 13,354 colored; deaths, 8 white, 7 colored. Rate per 1,000, white 24.9, colored 36.1. Nashville has 26,000 white, 11,000 colored; deaths, 8 white, 7 colored. Rate per 1,000, white 16.0, colored 31.1. Clarksville has 3,000 white, 3,000 colored; deaths 1 white, 4 colored. Rate per 1,000, white 17.3, colored 69.5. Louisville has 153,125 white, 21,875 colored; deaths, 44 white, 21 colored. Rate per 1,000, white 15.0, colored 50.0. Wheeling has 28,600 white, 900 colored; deaths, 14 white, 1 colored. Rate per 1,000, white 23.5, colored 37.9. Jacksonville, Ill., has 14,500 white, 300 colored; deaths 3 white, 1 colored. Rate per 1,000, white 10.7, colored 104.3. Burlington has 55,000 white, 600 colored; deaths, 9 white, 1 colored. Rate per 1,000, white 18.4, colored 50.9. Keokuk has 15,000 white, 800 colored; deaths 7 white, 1 colored. Rate per 1,000, white 24.2, colored 65.2. Lawrence has 6,800 white, 1,700 colored; deaths 1 white. Rate in table. Total white population, 1,632,270; deaths, 59; annual rate per 1,000, 18.8. Total colored population, 497,257; deaths, 243; annual rate per 1,000, 31.1.

The following reports, for the week ending April 17, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 1,000; deaths, 3; under 5 years, 2; consumption 1, pneumonia 1. Brunswick, Ga., 4,000; one death, accident. Edgartown, Mass., 1,400; no deaths. Morgan City, La., 2,500; consumption 1. Murfreesborough, Tenn., 3,500; one death. Saint Augustine, Fla., 2,500; no deaths. Shelbyville, Tenn., 2,000; no deaths. Total population, 19,900; deaths under 5 years, 2; total deaths, 6; annual rate per thousand, 15.7.

The following reports, for the week ending April 17, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 4; under 5 years, 1; consumption 3. Allegheny, Pa., 75,000; deaths, 23; under 5 years, 2; consumption 5, croup 1, diphtheria 1, scarlet fever 1, lung diseases 2, whooping-cough 1. Bath, Me., 10,000; deaths, 3; under 5 years, 1; malarial fever 1. Belfast, Me., 5,278; deaths, 4; under 5 years, 2; consumption 1; diphtheria 1, pneumonia 1. Brattleborough, Vt., 6,500; one death. Cambridge, N. Y., 1,200; deaths, 2; consumption 1. Carrollton, Miss., 600; no deaths. Chatham, Conn., 3,000; deaths, 2; under 5 years, 1; consumption 1. Circleville, Ohio, 6,400; pneumonia 1. Clinton, Mich., 1,200; no deaths. Columbus, Ga., 10,000; deaths, 5; under 5 years, 1; consumption 1, diarrhoea 1, old age 1. Corinth, Miss., 2,300; deaths, 4; under 5 years, 3; diarrhoea 1, lung diseases 2, measles 1. Crystal Springs, Miss., 1,000; no deaths in 2 weeks. Dallas, Tex., 20,000; deaths, 3; consumption 2. Davenport, Iowa, 27,000; deaths, 7; under 5 years, 3; croup 1, malarial fever 1, scarlet fever 1, measles 1, whooping-cough 2. Decatur, Miss., 1,000; no deaths. East Haven, Conn., 1,200; no deaths. Elgin, Ill., 8,500; deaths, 6; enteric fever 2, whooping-cough 1. Fayette, Miss., 300; no deaths. Helena, Mont., 3,500; deaths, 2; under 5 years, 1; lung diseases 2. Huntington, Pa., 1,500; one death. Huntington, Tenn., 850; no deaths. Iuka, Miss., 1,000; no deaths. Jefferson, Tex., 3,000; no deaths. Kenosha, Wis., 5,000; deaths, 3; under 5 years, 2; pneumonia 1, old age 1. Lansingburgh, N. Y., 7,150; deaths, 5; consumption 3, enteric fever 1, pneumonia 1. Lebanon, Pa., 9,000; deaths, 2; under 5 years, 1; diphtheria 1, pneumonia 1. Louisiana, Mo., 5,200; deaths, 2; under 5 years, 1; pneumonia 1, old age 1. Madison, Ind., 12,000; deaths, 3; under 5 years; lung

disease 1, whooping-cough 1. Marquette, Mich., 4,000; deaths, 5; consumption 2, pneumonia 1, old age 2. Meridian, Miss., 5,500; malarial fever 1. Milledgeville, Ga., 4,000; no deaths. Monnt Pleasant, Iowa, 5,000; deaths, 2; under 5 years 1. Natchez, Miss., 10,000; deaths, 2; under 5 years 1. Nebraska City, Neb., 5,200; diarrhoea 1, under 5 years. New Britain, Conn., 12,000; deaths, 2; under 5 years 1, pneumonia 1. Okolona, Miss., 3,000; pneumonia 1. Oshkosh, Wis., 15,000; consumption 1. Painesville, Ohio, 5,000; consumption 1. Phoenixville, Pa., 6,000; no deaths. Pomeroy, Ohio, 6,200; deaths, 3; scarlet fever 1, measles 1. Port Jervis, N. Y., 10,000; consumption 1. Portsmouth, Va., 14,000; deaths, 5; under 5 years, 2; diarrhoea 1. Pulaski, Tenn., 2,100; deaths, 2; under 5 years, 1. Ripley, Miss., 1,000; old age, 1. Rock Island, Ill., one death; no population given. Rockland, Me., 7,000; diphtheria 1, under 5 years. Santa Cruz, Cal., 5,000; one death. Senatobia, Miss., 1,500; no deaths. Springfield, Ohio, 23,000; deaths, 7; under 5 years, 5; consumption 2, old age 2. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths, 9; under 5 years, 5. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,600; no deaths. Waco, Tex., 11,000; deaths, 9; under 5 years, 2; consumption 3, lung diseases 2, dysentery 1. Waterbury, Conn., 16,000; deaths, 6; under 5 years, 2; malarial fever 1, pneumonia 1, old age 1. Watertown, N. Y., 10,000; deaths, 2; under 5 years, 1. Waxahatchie, Tex., 2,000; no deaths. Wesson, Miss., 2,000; no deaths. Winona, Minn., 11,786; no deaths. Youngstown, Ohio, 17,000; deaths, 7; under 5 years, 1; enteric fever 2, puerperal 1. Total population, 475,327; deaths under 5 years, 52; total deaths, 153; annual death-rate per thousand, 16.3.

MISCELLANEOUS.

HAVANA, CUBA.—Advices to April 13 state that during the week ending on that day there were ten deaths from yellow fever in the city, most of them being in the military hospital. No cases are yet reported among the shipping, but a "suspicious" case occurred on the 13th of April on an American schooner lying at a very dirty wharf. Cases have occurred in at least three houses not far from the wharves.

Advices to April 17 report 15 deaths from yellow fever for the week ending April 16; 13 of the deaths were in the military hospital, and 2 in the city. No cases among the shipping, other than the doubtful one previously reported.

Name of hospital.

[illegible]

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
1880.																		
Vancouver.	Victoria.	5,000	Apr. 3.	3	31.3													41.
Canada.	Kingston.	16,000	Apr. 17.	3	9.7													36.6
Guadeloupe.	Point à Pitre.	22,919	Apr. 3.	13	29.6													25
Haiti.	Port au Prince.	30,000	Mar. 31.	15	26.1													86
Do.	do.	30,000	Apr. 7.	13	22.6													75
Do.	Aux Cayes.	8,000	Mar. 27.	3	19.6													75
Do.	do.	8,000	Apr. 3.	5	32.5													75
Teneriffe.	Santa Cruz.	16,610	Mar. 20.	10	31.4					1		4				12		68.9
Do.	do.	16,610	Mar. 27.	11	33.5											29		68.4
Ireland.	Queenstown.	10,000	Apr. 10.	4	20.5								1					
Do.	Belfast.	230,000	Apr. 10.	116	26.3					14		17	12					45.6
Do.	Dublin.	314,666	Apr. 10.	183	30.6					4		12	12	4				23
Scotland.	Dundee.	157,780	Apr. 3.	82	35.8											169		44.8
Do.	Leith.	58,000	Apr. 10.	59	27.1													
England.	London.	3,664,119	Apr. 3.	1,732	24.7					9		7		1				226
Do.	Newcastle.	148,000	Apr. 3.	65	22.9													42
Do.	Liverpool.	544,656	Apr. 10.	247	26.1											25		30
Do.	Sheffield.	504,958	Apr. 10.	137	23.4							4	3	17				45.5
Do.	Bristol and Clifton.	213,500	Apr. 3.	115	28.1													11
France.	Paris.	1,988,806	Apr. 1.	1,198	31.4													
Do.	Lyons.	312,815	Mar. 27.	82	26.5													
Do.	do.	342,815	Apr. 3.	291	31.9													
Do.	Rouen.	104,902	Apr. 10.	76	37.8													
Switzerland.	Zurich.	22,163	Apr. 3.	6	14.2										1			7
Holland.	Amsterdam.	308,952	Apr. 3.	216	36.5													
Do.	Rotterdam.	156,378	Apr. 10.	89	27.8											8		21
Germany.	Breslau.	276,000	Mar. 20.	184	34.7													34.2
Do.	do.	276,000	Mar. 27.	180	33.9													46.6
Do.	Frankfort-on-Main.	126,000	Apr. 3.	65	28.9													43.9
Do.	Mannheim.	50,500	Apr. 10.	26	26.8													43.8
Do.	Stuttgart.	105,825	Mar. 20.	53	26.1													43.2
Do.	do.	105,825	Mar. 27.	57	28.1													43.9
Do.	do.	105,825	Apr. 3.	57	28.1													43.9
Do.	do.	105,825	Apr. 10.	48	26.9													43.8
Do.	Berlin.	1,087,500	Mar. 27.	579	27.3													70
Do.	do.	1,087,500	Apr. 3.	579	27.3													70
Bavaria.	Nuremberg.	100,000	Mar. 20.	47	24.5													6
Belgium.	Antwerp.	169,981	Mar. 6.	85	26.1					39	4	15	2					48.2
Do.	do.	169,981	Mar. 13.	95	29.1					54	15	14	1					53.6
Do.	do.	169,981	Mar. 20.	92	28.2					53	14	15	2					50
Do.	do.	169,981	Mar. 27.	85	26.1					44	12	11	1					46.4
Do.	do.	169,981	Apr. 3.	98	30.1					45	17	16	2			1		46.0
Do.	Brussels.	364,207	Apr. 7.	190	27.7													7
Saxony.	Chemnitz.	89,000	Mar. 20.	55	32.2													32
Do.	do.	89,000	Mar. 27.	43	25.2													
Do.	Leipzig.	160,000	Apr. 10.	85	27.7													5
Denmark.	Copenhagen.	235,334	Mar. 20.	116	28.9													43.7
Italy.	Rome.	298,960	Mar. 13.	238	41.7													52.7
Do.	do.	298,960	Mar. 20.	243	42.4													39
Do.	Leghorn.	98,024	Apr. 10.	48	25.6													54.7
Austria.	Trieste.	127,873	Mar. 20.	99	37.1													3
Do.	do.	127,873	Mar. 27.	107	37.1													
Do.	Venna.	746,243	Mar. 20.	496	34.7													21
Do.	do.	746,243	Apr. 3.	506	35.3													17
Hungary.	Buda Pesth.	327,788	Mar. 13.	243	41.2													52.4
Do.	do.	327,788	Mar. 27.	249	40.1													52.4
Russian Poland.	Warsaw.	336,765	Mar. 27.	190	29.6													32.6
Sweden.	Stockholm.	169,429	Mar. 27.	83	26.8													4
Morocco.	Tangier.	15,000	Mar. 6.	10	34.8													56.7
Do.	do.	15,000	Mar. 13.	30	40.1					19	3							52.4
Do.	do.	15,000	Mar. 20.	27	30.1					16	4			1				58.8
Do.	do.	15,000	Mar. 27.	28	30.5					12								58.7
Barbary.	Tripoli.	20,000	Mar. 27.	27	27.7													62.8
Cape Colony.	Cape Town.	35,000	Mar. 23.	19	28.3													72
Japan.	Kobe.	11,946	Mar. 6.	13	36.8													
Do.	do.	11,946	Mar. 13.	28	78.6													
Do.	do.	11,946	Mar. 20.	7	30.6													

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

National Board of Health

BULLETIN.

VOL. I.] WASHINGTON, D. C., SATURDAY, MAY 8, 1880.

[No. 45.]

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

Dr. R. A. Cleemann sends the following report of diseases and mortality in Philadelphia for the first three months of this year:

The weather during the first quarter of the year was unusually mild in Philadelphia; the precipitation somewhat less than the average for the season. The mean temperature, calculated from the monthly means furnished by the United States Signal Office in this city, was 39.3, nearly six degrees above the average for the quarter during the previous eight years, the period during which the United States signal station has been established in Philadelphia. The month of January had a mean temperature of 31.4, ten degrees above the average, and February of 39.1, six and a half degrees above its mean. The mean temperature of March, 39.46, exceeded its average by one degree.

The lowest point reached by the thermometer during the quarter was 12° on the 2d of February, and the highest point 75° on the 5th of March, so that the range of the mercury during the three months was 63°.

There were thirty-eight days, in each of which the thermometer fell as low as 32°, distributed as follows: nine in January, seventeen in February, and twelve in March. But on only one occasion during the whole quarter did the mercury remain below 32° as long as one day; this occurred in February, the depression lasting nearly two days. On thirty-five days, namely, fifteen in January, eleven in February, and nine in March, the thermometer rose to 50° and beyond; and on seven days, one in January, four in February, and two in March, the mercury registered more than 60°; on the two March days even more than 70° were recorded.

The rainfall (including melted snow) measured 7.47 inches, somewhat below the average for the three months, 8.33 inches. In January 1.51 inches were recorded, in February 2.13 inches, and in March 3.53 inches. The averages for these three months are respectively 3.32 inches, 2.53 inches, and 3.27 inches, so that the lessened aggregate precipitation of the quarter was caused almost solely by a deficiency of rainfall during January.

The mean relative humidity was 79.3 (saturation = 100), a little greater than usual, notwithstanding the lessened precipitation. The excess was due chiefly to the increased dampness of January, which measured 75° against its average of 72.46; the mean humidity of February, 68.1, surpassed its average nearly one degree, and March did not differ in humidity from its average, marking 67.37.

The whole number of deaths recorded in Philadelphia during the first quarter of 1880 (13 weeks, January 3 to April 3) was 1,914; this is exclusive of still-births (229) and of those prematurely born (26). This mortality corresponds with an annual death-rate of 17.36 per one thousand inhabitants living, estimating the population after a method detailed in my last letter, at 900,380 souls. This rate is considerably lower than that for the first quarter of the previous year, and is due chiefly to a diminished mortality in January and February; its diminution is, in great measure, the natural result of the mild weather, and proves an excellent refutation of the popular error that so-called "unseasonable" weather increases the death-rate; the truth is that relative extremes of heat and of cold are always harmful, whether in or out of season. The first quarter of the year in Philadelphia is accustomed to hold, in the succession of the quarters as regards mortality, the third place, both the second and fourth quarters having lower death-rates, and the proportion which its number of deaths bears to the total mortality for the year is about as 1 to 4, so that with the usual sequence of events the annual death-rate for the current year will prove a box one.

Of the 1,914 deaths recorded, 2,027 were of males and 2,021 of females, an uncommonly even distribution.

The deaths were distributed among the several ages as follows: under one year, 734; between one and two years, 257; between two and five, 351; between five and ten, 124; between ten and fifteen, 54; between fifteen and twenty, 95; between twenty and thirty, 143; between thirty and forty, 137; between forty and fifty, 343; between fifty and sixty, 312; between sixty and seventy, 355; between seventy and eighty, 312; between eighty and ninety, 159, and beyond

ninety years, 25. The deaths preponderate in the earliest years of life as usual, but to a greater extent than in the previous quarter. The latter fact is due chiefly to the increased number of deaths from diseases of the respiratory organs, nearly all the cases of death recorded from bronchitis, and a large proportion of those from pneumonia, being among infants. It seems probable to me that some of the deaths recorded under diseases of the nervous system, being classified there as from convulsions and cephalitis, were really caused by bronchitis and pneumonia, the motor disturbance or symptoms of cerebral effusion, occasionally present in the latter diseases, making a stronger impression upon the minds of the practitioners who reported them than the disorder in the respiratory organs. Such errors will arise, doubtless, under any system devised to collect vital statistics, but they are rendered more likely to occur by the want in Philadelphia, as in most other American cities, of such a registration of physicians as will involve an examination into the qualifications of the would-be practitioners of medicine; its absence must necessarily result in the incorporation of a number of persons among those professing to practice the healing art, who are too ignorant to make accurate diagnoses upon which to base their certificates of the cause of death.

The deaths during the quarter, adopting the same classification as in my last letter, were distributed under the several causes, as follows:

I. ZYMOTIC DISEASES 616, including *zymotic diseases* 591 (small-pox 33, measles 61, scarlatina 53, diphtheria 29, croup 36, whooping-cough 27, typhoid fever 20, typhus fever 6, erysipelas 27, puerperal fever 8, dysentery 4, diarrhoea 16, malarial fevers 5, rheumatism 9, cerebro-spinal meningitis 17, other zymotic diseases 17); *cathectic diseases* 8; *dietic diseases* 17.

II. CONSTITUTIONAL DISEASES 1,014, including *diathetic diseases* 436 (cancer 82, other diathetic diseases 354); *tubercular diseases* (tubercles mesenterica 115, phthisis pulmonalis 722, other tubercular diseases 39).

III. LOCAL DISEASES 1,573, including *diseases of the nervous system* 329 (cephalitis 292, apoplexy 68, paralysis 53, convulsions 184, other diseases of the nervous system 621); *diseases of organs of circulation* 250 (pericarditis 32, aneurism 11, heart diseases 206, other diseases of organs of circulation 1); *diseases of the respiratory system* 669 (bronchitis 131, pleurisy 8, pneumonia 466, other diseases of the respiratory system 61); *diseases of the digestive organs* 236 (enteritis 79, peritonitis 17, intestine diseases 35, stomach diseases 11, liver diseases 58, other diseases of the digestive organs 61); *diseases of the urinary organs* 109 (nephritis 13, Bright's disease 38, other diseases of the urinary organs 32); *diseases of organs of generation* 9 (diseases of ovaries 2, uterine diseases 7); *diseases of organs of locomotion* 6 (carries and necrosis 2, joint diseases 1); *diseases of integumentary system* 4.

IV. DEVELOPMENTAL DISEASES 429, including *developmental diseases of children* 34 (malformations 37, teething 8); *developmental diseases of adults* 9 (childbirth 3, puerperal convulsions 1, other developmental diseases of adults 2); *developmental diseases of old people* 183 (old age 183); *diseases of nutrition* 183 (obesity 114, marasmus 69).

V. VIOLENT DEATHS 122, including *accidental and influence* 103; *homicide* 5; *suicide* 14.

CAUSES NOT SPECIFIED, 3. Total, 1,914.

The zymotic mortality is a little greater than in the previous quarter, the difference being due especially to an increase in the deaths from *measles*, 61 against 5, and in those from *small pox*, 33 against 9. There were five more deaths from *scarlatina*, but the whole number was a good deal less than half the mortality from this disease in the corresponding quarter of the previous year. The deaths from *croup* and *diphtheria* fell off somewhat, notwithstanding the colder season, which had, however, its usual effect in diminishing those from *typhoid fever*. But the last disease was, as in the previous quarter, abnormal in its monthly variations of mortality; though the deaths it caused fell a good deal below the average in January, they began to increase in February, when the minimum mortality is apt to be found, and by March had reached their average for this month. The phenomenon may be explained by the unusual mildness of the winter, and progresses badly, I fear, for the coming summer.

It will be remembered that the deaths from *small pox*, which reappeared last November in Philadelphia, had been 9 in number up to the end of the year; 19 more were reported in January, 16 in February, and 8 in March, making 42 in all. As far as such small figures

go, their sequence justifies the confidence expressed in my last letter with reference to the feebleness of the present invasion of this pest.

There were recorded 170 cases of variolous disease from the beginning of the epidemic to March 31, of which 8 were reported in November, 35 in December, 44 in January, 46 in February, and 37 in March; figures which tell the same story of the decline of the zymotic. But there were undoubtedly a number of cases which escaped registration, some persons shrinking from the notoriety of having so heinous a disease, and others fearing the inconvenience of a visit from the health authorities, while the physician, if the case was mild, risked, at his patient's solicitation, the danger of concealment.

The cases were widely distributed over the city, being allotted among two-thirds of the thirty-one wards into which Philadelphia is divided; but the full force of the disease fell upon a group of three contiguous wards (25th, 19th, and 31st), in the northern part of the city, in which 107 of the 170 cases occurred; in an adjacent group (25th, 20th, and 15th wards), 28 cases were reported, leaving 35 cases to be divided among the fifteen remaining wards affected.

Of the 170 persons, who suffered from variolous disease, 94 had been vaccinated, 1 inoculated, and 1 both inoculated and vaccinated; 42 had been neither vaccinated nor inoculated, while the data were not given as regards 30. The statistics of the deaths from small-pox give a reverse proportion with reference to the numbers of victims vaccinated and unvaccinated, for of the 42 who died, 14 had never been vaccinated, 11 had been, while of 17 this point was not stated. Small though these figures are, they add their quota to the abundant testimony of the prophylactic power of vaccination, for it will be observed while the vaccinated who suffered from the disease were more than double the number of the unvaccinated, yet the deaths among the latter were much more numerous. Of those who died and were reported as having been vaccinated, only 3 bore good vaccination certificates, in 6 the mark was indistinct, in 1 it could not be found, and concerning one person nothing was said on the subject.

To what degree the disease was checked by vaccination and other measures I will not venture a positive opinion, but the fact remains that there was an enormous number of vaccinations performed throughout the city. The vaccine physicians of the board returned for this quarter alone 10,171 cases successfully vaccinated, while by these physicians in private practice with whom I am acquainted, and of whom I have inquired on the subject, there was a very thorough vaccination or re-vaccination of the families under their charge. It is gratifying, as showing the increasing confidence of the people in sanitary measures, that the district physicians reported a much greater willingness on their part than in the past to accept and even to seek vaccination. And the hospital for contagious diseases seemed to be worked upon with more favor than in previous epidemics, since, compared with the whole number of cases reported, a much greater proportion than in former times left their homes to take shelter within its walls. With such feelings awakened in the masses, the applications of sanitary science must become easier with every year.

The mortality from *measles*, 61, is the outcome of a very extended epidemic of the disease in Philadelphia. I have no accurate data on which to base its exact prevalence, but from observation in my practice, and from conversation with other physicians, I am quite satisfied that the number of cases has been immense. The diffusion of the disease may be known by the wide distribution of the deaths, which were scattered through every ward in the city, save six. There was an aggregate, however, in the fifteenth ward, among a population of 48,472 inhabitants (according to the municipal census of 1876), of 11 deaths. The fatal cases were credited to the several months, as follows: January, 3; February, 20; March, 8; a sequence which gives no sign of the decrease of the zymotic. Past experience makes us look for the greater number of deaths in the second quarter of the year, so that it will not be surprising to find April, and perhaps the following months, furnishing a comparatively high mortality from this disease.

Allusion was made in my last letter to some cases of true *typhus fever* which had been brought to the almshouse hospital, and to the fact that one death from this disease had appeared in the mortality records. Now I have 6 deaths to chronicle, 1 in January, 1 in February, and 1 in March. While to one acquainted with the diseases apt to prevail in Philadelphia, the rarity of typhus will excite suspicion of the identity of cases so reported; yet there can be no doubt, from the reports of hospital physicians and from the investigations of Medical Inspector L. Howard Taylor, that there has been and there still remains typhus fever among us. But with the comparative absence of crowding in our population, and the comparatively good hygienic condition of the lower classes in Philadelphia, I do not think this conviction need lead to any alarm of a formidable appearance of this zymotic. Our board of health is exerting itself to have the cases isolated as they are reported, and to purify the dwellings and surroundings in which they are found. The origin of the cases, as traced by the inspector, has been among the shipping.

The deaths from constitutional diseases were somewhat more numerous than in the previous quarter, owing to the greater fatality of tubercular diseases, especially *consumption*, which increased its mortality about 12 per cent. This advance, however, we are accustomed to anticipate at this season on account of the colder

weather, and especially the unfavorable meteorological conditions of March.

The same disturbing influences were responsible for the augmented numbers of deaths from *pneumonia* and *bronchitis*, which were the chief factors in bringing up the mortality from local diseases to an aggregate more than 25 per cent. above that for the preceding quarter.

This periodical increase in the number of deaths from these diseases should force upon our attention the wide field which is open for the broad-minded sanitarian from which to harvest and to scatter the truths which underlie the proper regulation of the agencies by which it is attempted to combat the baneful effects of cold. Its cultivation does not promise, perhaps, such brilliant results as the study of the means of stamping out zymotic diseases; but in the long run the yield must give the means of saving more lives to suffering humanity.

ABSTRACTS FROM CONSULAR REPORTS.

BORDEAUX, FRANCE.—The official report for the month of March gives a total of 47 deaths. Deducting 27 still-born, 7 suicides, and 7 from accidents, there remain 16 deaths from diseases. Of these 65, or 16.3 per cent., were from consumption; 24, or 5.8 per cent., from zymotic diseases; 33, or 22.3 per cent., from acute lung diseases. The population is not given, but the relative proportions indicate a very high rate of mortality from lung diseases.

PERNAMBUCO, BRAZIL.—United States Consul A. Cone, under date of April 8, reports that the general health of this city and the surrounding country is remarkably good. No infectious diseases are prevailing in epidemic form; there is always some small-pox, and a few cases of yellow fever occur among the shipping. Skin diseases are especially prevalent in Brazil, and pulmonary complaints are very fatal among the poorly fed lower classes.

SANTANDER, SPAIN.—Reports are received from this province, of 235,300 population, for the months of January and February. The following causes of death are reduced to the annual rate per 1,000 of population: Deaths from all causes for the two months, 1,251; rate, 31.9. Under five years, 388; rate, 9.9. Consumption, 171; rate, 4.36. Lung diseases, 178; rate, 4.54. Diphtheria and croup, 4 deaths; measles, 6; small-pox, 5; typhus and typhoid fevers, 9; whooping-cough, 10.

SPAIN.—The official monthly bulletin gives statistics of 49 provinces, including a total population of 16,623,384. The number of births during the last four months of 1876 was 157,061, giving an annual rate of 33.8 per 1,000 of population. The deaths in the same period were 171,509, or 30.9 per 1,000 per annum. The rate for consumption was only 1.36 per 1,000, the deaths being 7,554. Acute lung diseases, 14,857 deaths; rate 2.65. Deaths from small-pox, 5,398; measles, 2,918; scarlet fever, 851; diphtheria and croup, 3,267; whooping-cough, 1,801; enteric fever, 2,178, and malarial fevers, 2,953. The total from these zymotic diseases was 12,236 deaths, or 3.49 per 1,000, small-pox being notably in excess as compared with the United States. Deaths from dysentery 8,949, cholera 141, cholera infantum 3,164; total diarrheal diseases 12,254, or 2.20 per 1,000. Typhus fever caused 1,986 deaths, typhoid fever 2,178, and puerperal fever 3,291.

TURNER ISLANDS, WEST INDIES, April 15.—United States Consul F. P. Van Wyck observes that these islands enjoy a notable immunity from contagious diseases, which rarely spread when brought there from infected ports. The impregnation of the air with salt is considered of advantage to those suffering with chronic bronchial affections.

MISCELLANEOUS.

HAVANA, CUBA.—Advices to April 20 state that fifteen deaths from yellow fever occurred during the week ending on that day. Of these six were in the city, and nine in the military hospital. Small-pox, which is never quite absent, is again increasing, and sixteen deaths are reported for the week.

A report dated April 24 states that a fishing vessel arrived on the 20th from Yucatan, having on board a boy who was taken sick on the voyage. He was removed to hospital, and died two days after with black vomit. No yellow fever among the foreign shipping, and American masters are well disposed to adopt such measures of cleaning, fumigation, &c., as are suggested to them.

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REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING APRIL 24, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.		Consumption.	Croup.	Diarrhœal diseases.	Diphtheria.	FEVER.				Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents.
				Representing an annual death-rate per 1,000 of—						Enteric.	Malarial.	Scarlet.	Yellow.							
Cal	San Francisco	305,000	26	92	15.7	16	1	4	.....	3	.....	.....	12	1	2	.....	1	9	.....
	Sacramento	25,000	.....	13	14.6	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Los Angeles	14,000	.....	4	11.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Vallejo	7,500	.....	3	27.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals		8,441,810	1,244	3,242	20.0	510	55	69	91	55	36	65	509	68	37	12	35	424	77	

NOTE.—Boston has 370,000 white, 5,000 colored; deaths, 147 white, 3 colored. Rate per 1,000, white 20.7, colored 31.3. Providence has 98,200 white, 3,800 colored; deaths, 40 white, 1 colored. Rate per 1,000, white 21.2, colored 13.7. Wilmington, Del., has 28,000 white, 6,000 colored; deaths, 19 white, 2 colored. Rate per 1,000, white 26.1, colored 17.3. Baltimore has 342,715 white, 56,285 colored; deaths, 93 white, 24 colored. Rate per 1,000, white 13.9, colored 42.4. District of Columbia has 14,000 white, 56,000 colored; deaths, 25 white, 41 colored. Rate per 1,000, white 13.9, colored 42.4. Norfolk has 14,900 white, 11,300 colored; deaths, 5 white, 7 colored. Rate per 1,000, white 17.5, colored 13.8. Richmond has 46,000 white, 34,000 colored; deaths, 8 white, 11 colored. Rate per 1,000, white 9.0, colored 21.5. Lynchburg has 10,000 white, 11,000 colored; deaths, 1 white, 6 colored. Rate per 1,000, white 5.2, colored 28.4. Wilmington, N. C., has 6,714 white, 10,266 colored; deaths, 2 colored. Rate in table. Charleston has 25,000 white, 32,000 colored; deaths, 8 white, 16 colored. Rate per 1,000, white 16.7, colored 42.4. Augusta has 16,176 white, 10,824 colored; deaths, 1 white, 7 colored. Rate per 1,000, white 32.7, colored 10.4. Asheville has 22,000 white, 4,000 colored; deaths, 1 white, 3 colored. Rate per 1,000, white 10.2, colored 12.9. Jacksonville, Fla., has 7,000 white, 5,000 colored; deaths, 6 white, 1 colored. Rate per 1,000, white 44.7, colored 10.4. Mobile has 28,000 white, 12,000 colored; deaths, 7 white, 14 colored. Rate per 1,000, white 13.9, colored 58.8. Selma has 3,082 white, 3,988 colored; deaths, 3 white, 2 colored. Rate per 1,000, white 50.8, colored 26.1. New Orleans has 155,000 white, 55,000 colored; deaths, 69 white, 23 colored. Rate per 1,000, white 22.2, colored 31.3. Shreveport has 4,500 white, 5,000 colored; deaths, 3 white, 1 colored. Rate per 1,000, white 31.7, colored 10.4. Austin has 22,000 white, 4,000 colored; deaths, 1 white, 3 colored. Rate per 1,000, white 4.3, colored 41.5. Memphis has 16,705 white, 13,541 colored; deaths, 7 white, 10 colored. Rate per 1,000, white 21.8, colored 37.4. Nashville has 26,000 white, 11,000 colored; deaths, 8 white, 5 colored. Rate per 1,000, white 16.0, colored 25.7. Chattanooga has 7,800 white, 5,020 colored; deaths, 2 white, 4 colored. Rate per 1,000, white 13.2, colored 41.5. Clarksville has 3,000 white, 2,000 colored; deaths, 6 colored. Rate in table. Louisville has 123,125 white, 21,875 colored; deaths, 38 white, 20 colored. Rate per 1,000, white 12.9, colored 47.7. Jacksonville, Ill., has 14,500 white, 500 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 7.2, colored 104.3. Total white population, 1,538,830; deaths, 509; annual rate per 1,000, 16.3. Total colored population, 332,007; deaths, 245; annual rate per 1,000, 32.2.

The following reports, for the week ending April 24, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 4,000; one death. Brunswick, Ga., 4,000; deaths, 4; under 5 years, 3; diarrhoea 1, pneumonia 1. Edgartown, Mass., 1,400; no deaths. Morgan City, La., 2,500; deaths, 2. Murrefreesborough, Tenn., 3,500; no deaths. Saint Augustine, Fla., 2,500; one death. San Diego, Cal., 3,000; deaths, 4; under 5 years, 1; consumption 2, lung disease 1, whooping-cough 1. Shelbyville, Tenn., 2,000; no deaths.

Total population, 22,900; deaths under 5 years, 4; total deaths, 12; annual rate per 1,000, 27.7.

The following reports, for the week ending April 24, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 1; under 5 years, 1; consumption 1, old age 1. Allegheny, Pa., 75,000; deaths, 10; under 5 years, 2; consumption 1, croup 1, lung diseases 2. Bath, Me., 10,000; deaths, 3; under 5 years, 1; consumption 2. Belfast, Me., 5,275; one death. Boulder, Colo., 3,500; no deaths. Brattleborough, Vt., 6,500; deaths, 2; pneumonia 1. Calais, Me., 7,000; deaths, 2; under 5 years, 1; consumption 1, diphtheria 1. Cambridge, N. Y., 1,900; one death. Carrollton, Miss., 600; no deaths. Chatham, Conn., 3,000; no deaths. Chillicothe, Mo., 4,750; deaths, 2. Clinton, Mich., 1,200; no deaths. Columbus, Ga., 10,000; deaths, 25; measles 1. Corinth, Miss., 2,300; pneumonia 1, under 5 years. Dallas, Tex., 20,000; deaths, 3; under 5 years, 1; diarrhoea 2, enteric fever 1. Danvers, Iowa, 27,000; deaths, 5; under 5 years, 2; scarlet fever 1, whooping-cough 1. Dunkirk, N. Y., 8,000 (for two weeks); deaths, 7; under 5 years, 1; consumption 1, pneumonia 1. East Haven, Conn., 1,200; two deaths. Fairfield, Conn., 4,000; deaths, 3; consumption 1, malarial fever 1, pneumonia 1. Fayette, Miss., 300; no deaths. Greenville, Ala., 4,500; no deaths. Gunn City, Mo., 125; no deaths. Helena, Mont., 3,500; deaths, 3; lung diseases 2. Huntington, Pa., 4,500; no deaths. Indianola, Tex., 3,000; no deaths. Inka, Miss., 1,000; whooping-cough 1. Jefferson, Tex., 3,000; puerperal 1. Kenosha, Wis., 5,000; deaths, 3; consumption 1, pneumonia 1, old age 1. Lansingburgh, N. Y., 7,140; deaths, 4; consumption 1, enteric fever 1, malarial fever 1, puerperal 1. Lebanon, Pa., 9,000; pneumonia 1, under 5 years. Little Falls, N. Y., 5,900; pneumonia 1. Louisiana, Mo., 5,200; deaths, 2; puerperal 1. Madison, Ind., 12,000; deaths, 5; diphtheria 1, pneumonia 1. Marquette, Mich., 4,000; consumption 1. Martinsburg, W. Va., 6,000; consumption 1. Meridian, Miss., 5,500; one death. Milledgeville, Ga., 4,000; deaths, 2; under 5 years, 1, consumption 1, measles 1. Monmouth, Ill., 6,000; deaths, 4; under 5 years, 3. Mount Pleasant, Iowa, 5,000; scarlet fever 1. Muscatine, Iowa, 7,500; consumption 1. Muskegon, Mich., 13,000; deaths, 3; under 5 years, 1, consumption 1, diphtheria 1, pneumonia 1. Natchez, Miss., 10,000; deaths, 4; under 5 years 1, croup 1. New Britain, Conn., 12,000;

deaths, 2; enteric fever 1, malarial fever 1. Ocala, Fla., 1,000; diphtheria 1, under 5 years. Oshkosh, Wis., 18,000; one death. Oxford, Miss., 2,000; no deaths. Painesville, Ohio, 5,000; pneumonia 1. Pontotoc, Miss., 600; consumption 1. Port Gibson, Miss., 1,100; two deaths. Port Jervis, N. Y., 10,000; deaths, 5; under 5 years, 1, scarlet fever 1. Portsmouth, Va., 11,000; one death, under 5 years. Ripley, Miss., 1,000; no deaths. Rock Island, Ill., no deaths; population not given. Rockland, Me., 7,000; deaths, 3; enteric fever 1, pneumonia 1, old age 1. Santa Cruz, Cal., 5,000; one death, under 5 years. Springfield, Ohio, 23,000; deaths, 8; under 5 years, 2; consumption 1, diarrhoea 1, scarlet fever 1, pneumonia 1. Starkville, Miss., 1,162; no deaths. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; two deaths. Tuscaloosa, Ala., 4,000; no deaths. Verona, Miss., 1,000; no deaths for two months. Wesson, Miss., 2,000; one death. Winchester, Va., 5,500; one death. Winona, Minn., 10,000; one death. Youngstown, Ohio, 17,000; deaths, 6; under 5 years, 2; pneumonia 2, whooping-cough 1. Total population, 467,896; deaths under 5 years, 25; total deaths, 121; annual rate per thousand, 13.5.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The total numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortuary reports.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

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National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, MAY 15, 1880.

[No. 46.]

ANNUAL MEETING OF THE NATIONAL BOARD OF HEALTH.

The annual meeting of the National Board of Health was held in the city of Washington, D. C., convening on May 4 and adjourning May 10, 1880.

The Board re-elected its former officers, and revised its by-laws and appointed committees, as follows:

BY-LAWS OF THE NATIONAL BOARD OF HEALTH.

1st. The officers of the National Board of Health shall consist of a president, vice-president, and secretary.

2d. There shall be an executive committee, composed of the president, vice-president, secretary, and three other members.

3d. The officers of the Board and the other members of the executive committee shall be elected by ballot at the first annual meeting in each year, the nomination to be by informal ballot.

4th. The duties of the president shall be—

First. To preside at all meetings of the Board and of the executive committee.

Second. To call meetings as provided in the act creating the Board.

Third. To make requisitions upon the Secretary of the Treasury for such sums as may be directed by the Board.

5th. The vice-president shall take the place and perform the duties of the president when absent.

6th. The secretary shall keep the records and conduct the correspondence of the Board and of the executive committee, certify to the correctness of all vouchers for expenditures, and perform such other duties as the Board or executive committee may from time to time direct, and he shall be the custodian of all papers, books, and other property of the Board.

7th. The executive committee shall carry into effect the directions of the Board, and act for it during the intervals of its sessions, reporting such action to the next meeting.

8th. The executive committee is authorized to fill any vacancies in the offices or executive committee occurring in the intervals of the meetings of the Board, such election to hold good until the close of the next meeting of the Board.

9th. No purchases shall be made or expenditures incurred except by order of the Board or of the executive committee, and the executive committee shall not have power to incur any indebtedness beyond the amount of funds authorized by the Board to be drawn by the president, and placed to the credit of the Board with the disbursing clerk of the Treasury Department.

10th. The executive committee shall be considered to be in permanent session, and, in the interval of the regular meetings, any three members, of whom the secretary shall be one, shall constitute a quorum, and be authorized to transact any business, provided there be a concurrent vote. In case of disagreements the secretary shall be required to report the fact to the absent members and solicit an expression of their wishes as to the call of a formal meeting of the whole committee, or as to taking a vote by correspondence.

11th. All bills for salaries and expenses shall be duly certified by a member of the Board, and audited and approved by the secretary of the Board, who shall keep an accurate record of such vouchers and approvals.

12th. The standing committees of the Board shall be as follows, each to be composed of not less than three members, named by the presi-

dent, with the exception of that on epidemic and contagious diseases, which shall consist of five members:

1. On epidemic and contagious diseases.
2. On registration and vital statistics.
3. On State, municipal, and local sanitary legislation.
4. On quarantine legislation—State, national, and international.

13th. The regular meetings of the Board shall be semi-annual, in June and December of each year, at a day and place to be fixed by the executive committee.

14th. The president shall call a meeting of the Board whenever five members make in writing or by telegraph a joint request to him to that effect.

THE NATIONAL BOARD OF HEALTH.

PRESTON H. BAILLIACHE, M. D., U. S. M. H. S., 240 Md. Ave., Balt., Md.
 SAMUEL M. BEMISS, M. D., &c., 558 St. Charles st., New Orleans, La.
 JOHN S. BILLINGS, M. D., U. S. A., 84 Gay street, Georgetown, D. C.
 HENRY I. BOWDITCH, M. D., &c., 113 Boylston street, Boston, Mass.
 JAMES L. CABELL, M. D., &c., University of Virginia, Va.
 HOMER A. JOHNSON, M. D., &c., 4 16th street, Chicago, Ill.
 ROBERT W. MITCHELL, M. D., &c., 31 Madison st., Memphis, Tenn.
 SAMUEL F. PHILLIPS, Esq., Solr-General, 1119 K st., Washington, D. C.
 STEPHEN SMITH, M. D., &c., 31 West 42d street, New York.
 THOMAS J. TURNER, M. D., U. S. N., 1227 M st., Washington, D. C.
 TULLIO S. VERDI, M. D., &c., 815 14th st. N. W., Washington, D. C.

OFFICERS.

JAMES L. CABELL, J. L. D., &c., President.
 JOHN S. BILLINGS, Surgeon United States Army, Vice-President.
 THOMAS J. TURNER, Medical Director U. S. N., Secretary.

EXECUTIVE COMMITTEE.

Dr. James L. Cabell, Dr. John S. Billings, Dr. Thomas J. Turner,
 Dr. Stephen Smith, Dr. Preston H. Baillache, Hon. S. F. Phillips.

COMMITTEES.

1. On epidemics and contagious diseases.—S. M. Bemiss, R. W. Mitchell, H. A. Johnson, T. S. Verdi, P. H. Baillache.
2. On registration and vital statistics.—J. S. Billings, R. W. Mitchell, H. A. Johnson.
3. On State, municipal, and local sanitary legislation.—H. I. Bowditch, S. F. Phillips, S. Smith.
4. On quarantine legislation—State, national, and international.—S. Smith, S. F. Phillips, J. L. Cabell, S. M. Bemiss, P. H. Baillache.

RESOLUTIONS RELATING TO SMALL POX AMONG IMMIGRANTS.

At the annual meeting of the National Board of Health, May 4-10, 1880, the following preamble and resolutions, offered by Doctor Stephen Smith, of New York city, were adopted:

Whereas small-pox is being introduced into the United States, and spread from one State into another, by the emigrants now arriving from Europe—

Resolved, That in the opinion of the National Board of Health it is of the first importance that personal inspection of all emigrants should

be made at the several ports which they enter with a view to secure their proper vaccination before landing.

Resolved, That the executive committee be and is hereby directed to ascertain from the quarantine authorities of the ports at which emigrants arrive to what extent such inspections and vaccinations are now made, and what additional rules and regulations, if any, are required at the respective ports, and what additional means and measures are necessary to secure such inspection and vaccination.

Resolved, That when the requisite information is obtained the executive committee be empowered to adopt such measures as in its judgment will best accomplish the objects referred to.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

CHATTANOOGA, TENN.—Dr. J. H. Vandeman, of the United States Marine Hospital Service, reports to Surgeon-General Hamilton, under date of May 8, that an epidemic of measles prevailed at Chattanooga, and mostly in the least populous parts of the city. A few cases of scarlet fever had occurred, but the disease had not spread to any extent. The general sanitary condition of the city is now excellent and the authorities are vigilant in maintaining cleanliness.

HAVANA, CUBA.—During the week ending April 27 fifteen deaths from yellow fever are noted, 9 in the military hospital and 6 in the city and civil hospitals. Two cases have appeared on a Spanish bark lying at a foul wharf; none among the other shipping.

Advices to May 1 report 15 deaths from yellow fever during the last week of April, three in the city, and twelve in the military hospitals. There were 49 deaths in the month of April, 32 of which were in the last 15 days of the month. No cases among the foreign shipping, but the Spanish bark Teresa, which sailed April 30, for Brunswick, Ga., had yellow fever on board while in port at Havana. Small-pox caused 46 deaths in Havana during the month of April.

JEFFERSON BARRACKS, MO., May 6.—Surgeon E. P. Vollman, United States Army, reports a case of measles among the new arrivals from the cavalry recruiting rendezvous at Saint Louis.

LANSING, MICH.—Dr. Henry B. Baker reports, April 30, two cases of small-pox noted by Dr. E. Newcomb in Ash Township, Monroe County, Mich., and about thirty persons exposed to the contagion in the vicinity.

MARYVILLE, TENN., April 20.—Dr. J. Blankinship states that this town of 1,200 inhabitants had a board of health organized last year under authority from the State board. The members refused to serve after October, 1879, on account of the indisposition of citizens to carry out their measures. The general good health of the place and its freedom from epidemics have had the effect, usually observed in small towns, of making the people indifferent to sanitary precautions.

NAVASOTA, TEX., May 3.—Dr. A. R. Kilpatrick reports very little sickness and but two deaths since March 1. The population is about 2,700, of whom 900 are colored. In March the temperature was between 32 and 33 on three days, causing much injury to crops; the highest temperature noted was 82°, on the 6th and 8th. In April the extremes were 42° and 90°. Rain-fall heavy, but not measured; estimated at 6 inches for 9 days of April.

NEW ORLEANS, LA., May 4.—Dr. S. M. Bemiss forwards a copy of the sanitary rules of the Louisiana State board of health regulating shipping in the port of New Orleans. The form for inspection of vessels contains thirty questions, and the circular (No. 3) includes ample instructions for the hygiene of ships trading between New Orleans and tropical or semi-tropical ports.

PEARLINGTON, MISS.—Dr. J. A. Mead reports for the week ending April 23 only two deaths in this town of 1,500 inhabitants. Both were colored infants, and died of whooping-cough.

POMEROY, OHIO.—Dr. W. P. Wells, health officer, states that he found a case of small-pox, May 5, in a deck-hand on a river steam-boat, from Saint Louis. The man had slept on some rags during the trip; he was at once removed to hospital. The patient reported that other men on the boat during the voyage had a "breaking out," which did not last long.

UNION CITY, TENN.—Under date of May 4th, Dr. S. T. Evans reports that the almost unprecedented warm and damp weather of the winter and spring has not caused any increase in sickness. Dr. Evans observes that the increase of consumption among the colored people in his neighborhood has attracted general attention. The possible reappearance of yellow fever keeps the people attentive to sanitary precautions.

VINELAND, N. J., May 5.—Dr. Charles Brewer forwards report for the month of April, and states that under a recent act of the State legislature a board of health has been organized for Landis Township.

ABSTRACTS FROM CONSULAR REPORTS.

HONG KONG, CHINA.—The United States consul states that there is no board of health in Hong Kong, but a monthly report of deaths is published in the government Gazette. The population was estimated at 139,144 in 1876, divided as follows: White, 7,525; Chinese, 130,164; colored, 1,451. During the year 1879, there were recorded 4,473 deaths from all causes, giving a death-rate of 32.1 per 1,000. Among the Chinese population of 130,168, there were 4,310 deaths, being at the rate of 33.1 per 1,000; among the causes noted, "fevers" include 877, or 20.3 per cent.; diarrhea and dysentery, 692, or 15.1 per cent.; diphtheria and croup, 484, or 11.2 per cent.; consumption 469, or 10.9 per cent.; acute lung diseases 222, or 5.1 per cent. Of the remaining 1,566 deaths, 96 were from small-pox, 51 from measles, 49 diseases of the heart, 58 tetanus, and 48 from other diseases of the nervous system; there were 20 suicides, and 130 deaths from accidents and injuries, of which 50 were by drowning—not included under suicides. Among the foreign residents, 7,525 in number, there were 163 deaths during the year, or 21.6 per 1,000. Of these, "fevers" caused 29, or 17.8 per cent.; diarrhea and dysentery 22, or 13.5 per cent.; consumption 13, or 8 per cent.; acute lung diseases 7, or 4.3 per cent. Of the remaining 92 deaths, 10 were from measles, 8 from diseases of the heart, 9 diseases of the nervous system, 7 diseases of the liver, and 3 from old age. There were 2 suicides, and 10 deaths from accidents and injuries.

MATAMORAS, MEXICO.—United States Consul W. P. Sutton reports, under date of April 17, that the small-pox, which had been epidemic up the river at Camargo and at Rio Grande City, had not reached Matamoras nor Brownsville. The health of the city continues good, the deaths for the week being only seven, in a population of 16,000, and no contagious disease is reported.

MAURITIUS, PORT LOUIS.—United States Consul H. C. Marston reports a total of 645 deaths in nine towns of Mauritius, during the month of February; annual death-rate, 21.8 per 1,000. Of the 645 deaths, 344 were from "fever," probably malarial. In Port Louis the deaths were 162 for the month; annual rate, 30 per 1,000 inhabitants. The total of deaths and the rate are lower than they have been in February for five years previous.

MELBOURNE, AUSTRALIA.—United States Consul O. M. Spencer reports for the month of January 463 deaths in this city and vicinity, including a population of 256,477; annual rate, 21.7 per 1,000. Among the causes noted are cholera 4 deaths, typhoid fever 8, and other contagious diseases 9. The death-rate is lower than that for the month of January at any time within ten years. The births during the month were 672, or 269 above the number of deaths; the birth-rate was 31.4 per 1,000 per annum. The highest temperature in the shade was 106°.5 on the 20th; lowest 45°.9, on the 10th; mean

for the month 65°.4, or nearly half a degree below the average for January for ten years past. The mortality among children under 5 years of age was 43 per cent. of all deaths.

MONTVIDEO, URUGUAY.—United States Consul A. L. Russell reports 278 deaths for the month of February; population, 111,500; annual death-rate, 27.4 per 1,000. Four deaths from typhoid fever and three from other contagious diseases are noted. February 22, the United States ship *Marion* was still in quarantine, with yellow fever on board, at Flores Island, 18 miles from the city. March 30, Commander Bunce reported "no sick on the list."

MONTREAL, CANADA.—The United States consul forwards reports of Dr. A. B. Larocque, health officer:

During the year 1879 the total number of deaths was 3,704, being at the rate of 27.4 per 1,000 in a population of 135,000, and is noted as the lowest death-rate recorded for the city. Since 1872 it has ranged from 30 to 36.3, and in 1878 was 30.5. Among the causes, small-pox stands first, with 472 deaths, or nearly one-eighth of the total mortality. This number is, however, 256 less than the deaths from the same cause in 1878. Consumption caused 379 deaths, lung diseases 217, diphtheria 124, typhoid fever 63. Among children diarrheal diseases caused 414 deaths, and the total mortality under 10 years was 2,033, or 54.9 per cent. of all deaths.

In January, 1880, there were 310 deaths and 20 still births; death-rate, 27.5 per 1,000; under 10 years, 181 deaths, or 58.4 per cent. of total mortality. Causes of death: Small-pox 33, diphtheria 7, croup 7, enteric fever 7, scarlet fever 6, whooping-cough 2, consumption 42, and lung diseases 28.

In February there were 313 deaths and 25 still births; death-rate, 30.5 per 1,000; under 10 years, 207 deaths, or 60.3 per cent. of total mortality. Causes of death: Small-pox 26, measles 16, croup 14, diphtheria 11, enteric fever 4, scarlet fever 3, whooping-cough 1, consumption 40, and lung diseases 41.

PARA, BRAZIL.—United States Consul A. C. Prindle reports for the month of March 117 deaths in a population of 40,000; annual rate, 35.1 per 1,000, and malarial fevers the chief cause of death. Two from typhus fever and one from diphtheria, are the only special causes cited.

SINGAPORE.—The report of deaths for the month of February shows the absence of any contagious disease in epidemic form. Of 218 deaths, 54 were due to "fever," 36 to diarrheal diseases, and 11 to consumption.

ST. THOMAS, WEST INDIES.—United States Consul V. V. Smith sends reports for the 4 weeks ending April 15. In this period there were 35 deaths, and the population being 15,000, the annual rate was 30.3 per 1,000. Two deaths were from accidents, and one a still-birth. Consumption caused 9 deaths, or 28.1 per cent. of deaths from disease.

MISCELLANEOUS.

ORANGE C. H., VA., May 12.—Small-pox is reported at this place, and at Madison Run, both on the Virginia Midland Railroad, which has two trains daily going into Washington City. The disease is also said to be spreading among the laborers employed on the northern end of the Charlottesville and Rapidan Railroad.

PENSACOLA, FLA.—In pursuance of an ordinance passed by the city council April 26, George H. O'Neal, mayor of Pensacola, has published, under date of April 28, a proclamation directing the establishment of quarantine at that port from the first day of May, to continue until removed by the board of health. The ordinance gives in detail the duties of pilots and masters of vessels, and directs the strict isolation of infected from healthy vessels in quarantine.

POWERS OF THE NATIONAL BOARD OF HEALTH.

PANSACOLA, FLA., April 22.—The following preamble and resolution, introduced by the mayor, Geo. H. O'Neal, were unanimously adopted by the board of health:

Whereas an effort is being made to restrict the powers already given, or that may be given, the National Board of Health; be it therefore

Resolved, That it is the opinion of this board that Congress should delegate to the National Board of Health full powers over maritime quarantine within the United States; and to this end we respectfully request our Representatives in Congress to use their influence, and also to sustain the National Board of Health in exercising the powers already granted them, and that the clerk of this board forward a copy of these resolutions to each of our Representatives in Congress and one to the National Board of Health.

S. C. COBB,
President Board of Health.

A CALL FOR CONCERTED ACTION.

Copies of the following circular letter, which explains itself, were yesterday forwarded to representative gentlemen in every Gulf port where there is no board of health:

OFFICE OF THE NEW ORLEANS
AUXILIARY SANITARY ASSOCIATION,
New Orleans, May 3, 1880.

SIR: In view of the establishment of a national quarantine at Ship Island, it is important that every port on the Gulf should be placed in a position to work in harmony with the regulations of the National Board of Health, in order that they may receive all the benefits which will certainly accrue therefrom. The national government can only act through legally constituted bodies.

The National Board of Health do not force their services upon any State or locality; assistance will only be afforded if asked for; the necessity for and value of that assistance will be fully appreciated by every thoughtful man. The interests of New Orleans and the Gulf coast are identical; the same measures are of equal importance to both.

In addition to the authorities constituted by law, we have formed an association, so that we may be sure to gain every advantage to the public health which can be secured by thorough organization and prompt and energetic action.

Feeling the importance of these measures and this co-operation, we respectfully urge upon you the creation of either a local board of health, or, if that is not practicable, a chartered association similar to the New Orleans Auxiliary Sanitary Association, to look after the hygienic interest, and at the same time to present a body through whom the National Board of Health can act to dispense assistance.

If you approve these suggestions, as I sincerely hope you will, the inclosed documents of our society will greatly facilitate your action.

We must stand "shoulder to shoulder" in this great fight against the introduction or dissemination of disease of every kind, and we cordially invite you to communicate with the New Orleans Auxiliary Sanitary Association whenever you think proper to do so.

With best wishes for continuance of the present good health of your community,

I remain, yours, &c.,

EDWARD FENNER, J. P.

By JOHN C. HENDERSON, Secretary.

NEW ORLEANS, LA., April 27.—Dr. J. Jones, president of the city board of health, sends a copy of the printed circular issued by the board, giving a synopsis of the sanitary laws to be enforced, and urging the necessity of cleanliness and of disinfection at regular intervals in a city not provided with sewers, especially during the summer. For privies a mixed solution of copperas and carbolic acid is recommended, to be applied freely at least once in five days.

The following reports, for the week ending May 1, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 4,000; two deaths. Brunswick, Ga., 4,000; one death. Chatham, Conn., 3,000; deaths, 2; under 5 years, 1. East Haven, Conn., 1,200; no deaths. Edgartown, Mass., 1,400; no deaths. Fairfield, Conn., 4,000; deaths, 5; under 5 years, 2; diphtheria 1, malarial fever 1, pneumonia 1. Morgan City, La., 2,500; no deaths. Murfreesborough, Tenn., 3,500; deaths, 4; consumption 2, pneumonia 1. Nantucket, 3,000; deaths, 3; consumption 2. Shelbyville, Tenn., 2,000; deaths, 2; under 5 years, 1; consumption 1.

Total population, 28,600; deaths under 5 years, 1; total deaths, 19; annual rate per 1,000, 34.6.

The following reports, for the week ending May 1, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 5; under 5 years, 1; pneumonia 1. Allegheny, Pa., 75,000; deaths, 22; under 5 years, 7; consumption 2, enteric fever 1, malarial fever 1, lung diseases 3. Bath, Me., 10,000; deaths, 3; under 5 years, 1; consumption 1. Belfast, Me., 5,278; deaths, 2; old age 1. Boulder, Colo., 3,500; consumption 1. Brattleborough, Vt., 6,500; deaths, 2; old age 1. Calais, Me., 7,000; deaths, 4; under 5 years, 2; scarlet fever, 2. Cedar Keys, Fla., 1,500; consumption 1. Chillicothe, Mo., 4,750; no deaths. Circleville, Ohio, 6,400; deaths, 3; under 5 years, 1; old age 1. Columbus, Ga., 10,000; deaths, 4; under 5 years, 1; lung diseases 2. Corinth, Miss., 2,300; pneumonia 1. Dallas, Tex., 20,000; deaths, 2. Decatur, Miss., 1,000; no deaths. Elgin, Ill., 8,500; deaths, 2; under 5 years, 1; consumption 1, lung disease 1. Fayette, Miss., 300; one death, infant. Gunn City, Mo., 125; no deaths. Helena, Mont., 3,500; no deaths. Huntington, Tenn., 850; no deaths. Indianola, Tex., 200; no deaths. Inka, Miss., 1,000; no deaths. Jefferson, Tex., 3,000; one death, under 5 years. Kenosha, Wis., 5,000; no deaths. Lausburgh, N. Y., 7,150; deaths, 4; consumption 1; diphtheria 2, enteric fever 1. Lebanon, Pa., 9,000; deaths, 3; under 5 years, 1; consumption 1, croup 1, enteric fever 1. Little Falls, N. Y., 5,900; deaths, 2; consumption 1. Louisiana, Mo., 5,200; deaths, 2; consumption 1. Madison, Ind., 12,000; deaths, 4; under 5 years, 2, lung diseases 2, whooping-cough 1. Marquette, Mich., 4,000; deaths, 2; whooping-cough 1. Meridian, Miss., 5,500; one death. Milledgeville, Ga., 4,000; deaths, 2; under 5 years, 1, diphtheria 1, old age 1. Mount Pleasant, Iowa, 5,000; old age 1. Muscatine, Iowa, 7,500; deaths, 2; under 5 years 1, pneumonia 1. Muskegon, Mich., 13,000; deaths, 4; under 5 years 1, diphtheria 1, consumption 1, malarial fever 1, pneumonia 1. Natchez, Miss., 10,000; one death. Nebraska City, Neb., 5,200; deaths, 3; enteric fever 1, puerperal 1. Oshkosh, Wis., 18,000; deaths, 8; under 5 years, 1; consumption 5, pneumonia 1. Painesville, Ohio, 5,000; no deaths. Phoenixville, Pa., 6,000; consumption 1. Port Jervis, N. Y., 10,000; one death. Portsmouth, Va., 14,000; deaths, 5; under 5 years, 1; consumption 2, scarlet fever 1. Ripley, Miss., 1,000; no deaths. Rock Island, Ill., no population given; deaths, 1; consumption 2. Rockland, Me., 7,000; deaths, 3; under 5 years, 2; diphtheria 2. Santa Cruz, Cal., 5,000; no deaths. Springfield, Ohio, 23,000; deaths, 8; under 5 years, 2; consumption 2, diarrhoea 1, diphtheria 1, pneumonia 2. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths, 5; under 5 years, 1. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; deaths, 1; consumption 1, enteric fever 1. Tuscaloosa, Ala., 4,000; old age 1. Verona, Miss., 1,000; no deaths. Victoria, Tex., 3,500; deaths, 2; under 5 years, 1; consumption 1. Waco, Tex., 11,000; deaths, 6; consumption 1, diarrhoea 1, enteric fever 1, old age 1. Wesson, Miss., 2,000; no deaths; Westville, Miss., 125; no deaths since Jan. 12. Winchester, Va., 5,500; deaths, 3; consumption 2. Winona, Minn., 10,000; deaths, 3; under 5 years, 1; Youngstown, Ohio, 17,000; deaths, 5; under 5 years, 2; lung diseases 2. Total population, 450,841; deaths under 5 years, 33; total deaths, 110; annual rate per thousand, 16.2.

EFFECTS OF QUARANTINE ON INTER-STATE TRAFFIC

Dr. J. H. Rauch, secretary of the Illinois State board of health, forwards, under date of May 3, a statement of the tonnage received and forwarded by the Illinois Central Railroad at Cairo, Ill., for the last six months of 1878 and of 1879. The respective amounts received were 267,111,200 and 367,800,800 tons; forwarded, 87,300,600 and 120,833,800 tons.

The great difference in favor of 1879 is more than can be ascribed to increase of trade, and is largely due to the different quarantine regulations in force. In 1878 there was practically an exclusion of everything from the south; while, under the inspection system of 1879, only dangerous articles were excluded. This result could not have been reached without the co-operation of the National Board of Health, and the utmost exertions and repeated assurances of its inspector, as to precautions along the Mississippi River, were required to allay the fears of the local authorities. As it was, though not a single case of yellow fever occurred in Illinois in 1879, one third of the people of Cairo were ready for immediate flight from July to September. The statement of tonnage being for one railroad alone, which pays to the State 7 per cent. of its net earnings, the amount gained by increase of trade was many times greater than the whole expenditure for sanitary purposes.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

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National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, MAY 22, 1880.

[No. 47.]

QUARANTINE PROCLAMATION No. 1, 1880.

FOR THE STATE OF TEXAS.

EXECUTIVE OFFICE,
Austin, Texas, April 27, 1880.

Be it known that I, O. M. Roberts, by the authority vested in me as governor by the laws of this State, do hereby declare quarantine to exist, and to be enforced on the coast of Texas, at the stations hereinafter mentioned, to commence from and after the 10th day of May, A. D. 1880, and to continue until closed or modified by directions of the governor.

First. Said quarantine shall be applied to any vessels sailing from or touching at any port or place south of north latitude twenty-five degrees, and entering any port of the coast of Texas, and also to vessels sailing from ports north of that degree of latitude, so soon as they, or any one of them, shall have been declared to have infectious disease, liable to be carried in said vessels, their passengers, cargoes, or crews; and should the health officer at any of such of our coast stations be satisfied of the existence of such infectious disease at a port or ports or place north of that degree before it is so declared, he shall have authority to detain the vessel and report the facts to the governor for his action thereon.

Second. The said quarantine is to be enforced under the following rules:

RULE 1. All vessels arriving at any of said coast stations shall come to anchor, and not be allowed to weigh anchor until boarded by the quarantine officer of the station.

RULE 2. Said vessels shall be detained long enough for thorough and exhaustive sanitary inspection by the medical officer, and shall not move from the station until granted free pratique by said officer.

RULE 3. It shall be the duty of the medical officer to ascertain every possible fact pertaining to the sanitary condition of said vessel, its crew, passengers, and cargo, that might endanger the inhabitants of this State; and in all cases of doubt the vessel shall be placed in quarantine twenty days from the date of inspection, and in cases of sickness of infectious or contagious character said vessel shall be detained in quarantine twenty-five days after all such disease on said vessel has disappeared; and if in any case the health officer should be satisfied that a detention for a longer time than here prescribed is necessary for safety, he must forthwith report the facts to the governor.

RULE 4. Any contemplated modifications of Rule 3 at any of such ports shall first be submitted to the governor for his action, to be granted only upon such conditions as to expense, and under such regulations as may be prescribed, so as to secure positive safety, which action shall govern all ports alike, upon similar conditions, regulations, and restrictions, as nearly as may be found practicable.

Third. All vessels coming from infected ports, laden with such articles only as will not convey yellow fever, such as the following: Iron and steel, not covered with cloth or paper; bacon in bulk, or in hogheads or boxes; land in barrels, kegs, or metallic vessels; salt of every description; lime and cement in bulk or barrels; sulphates of zinc, iron, copper, and potassa, or their chlorides and carbonates, may be admitted upon such conditions, regulations, and restrictions as may be stipulated beforehand for the admission of such vessels at any port, and proper arrangements made therefor under such directions as may be sanctioned by the governor.

Fourth. Vessels coming empty from infected ports for shipping cattle may be admitted at any port after complete arrangements have been made to insure positive safety, under such conditions, regulations, and restrictions as may be prescribed beforehand upon application therefor.

Fifth. The station at Sabine Pass will be under the control, for quarantine purposes, of such health officer and other agents and employes as may be appointed by the county judge and commissioners' court of Jefferson County. The pass at Galveston to be under the control of the board of health of said city, and such health officer, agents, and employes as they may appoint for quarantine purposes. The stations at the mouths of the Brazos and Colorado Rivers and San Luis Pass to be under the control of the county judge and commissioners' court of Brazoria County, and such health officer and guards and employes as they may appoint. The station at Pass Cavallo to be under control of the corporate authorities of Indianola, and such health officer, agents, and employes as they may appoint. The station at Atascas Pass, and that at Corpus Christi Pass, to be under the control of the city authorities of Corpus Christi, and such health officer, agent, and employes as they may appoint. The station

at Brazos Santiago and at the mouth of the Rio Grande, so far as Texas has a right there, to be under the control of the city authorities of Brownsville, and such health officer, agents, and employes as they may appoint; and said city authorities shall also, whenever it may become necessary for quarantine purposes, make provision for guarding and assuming control of all crossings of the Rio Grande leading to said city, of which, however, notice of its necessity shall forthwith be given to the governor for his sanction or disapproval. The municipal authorities of the city of Houston and the board of health appointed by them, if any, to have control of that city and such other points in the county of Harris as lead to it, and with authority to appoint a health officer and such employes as may be required, whenever it shall become necessary, and not before, to establish a quarantine there for the protection of that city and the country in fear of it, of which notice is requested to be given to the executive for his action thereon.

Sixth. The local authorities thus recognized as taking control of each of said stations are requested to make contracts with said officers and employes, consulting therein both efficiency and economy, and provide such things otherwise as may be deemed necessary for the service, subject to the approval of the governor, and promptly report the same to him, with names of persons, their duties, the prices agreed on, and cost of things purchased; and whenever any addition to or change is required to be made, that is also to be promptly reported. They will also approve all accounts admitted to be just, and forward them to the governor for his approval, specifying the nature of the service or the object for which accounts have been made, and, as soon as practicable, furnish him with a rough sketch on foolscap paper of the station at each port, showing by the relation and names of places how the quarantine arrangements have been made and carried on for the safety of the country.

Seventh. All vessels arriving at any port of Texas from any port south of the twenty-fifth degree of north latitude should be taken to be doubtful as to the safety of admitting it, unless, in reference to that particular port south of the twenty-fifth degree of north latitude, it has been shown beforehand that no infectious disease prevailed at that place when the vessel left it, or a reasonable time before, and it is so authoritatively declared upon full information sent to this office.

Eighth. The respective boards and health officers should give heed to the instructions and advice of the National Board of Health and its officers, given in aid of the State quarantine, not disregarding, however, the more rigid and restrictive rules herein required, and made necessary by the nearness of our coast to the tropics.

Ninth. Any vessel coming from a port or place north of the twenty-fifth degree of latitude, and which has not been south of it during this season, or which has been properly disinfected after being there, and contains a cargo that has recently been brought from a port or place south of that latitude, or from an infected port north of it, which cargo has been properly disinfected, of which satisfactory information must be furnished to the health officer at any Texas port, may be admitted after thorough inspection and no suspicion of danger is entertained; but if there has been no proper disinfection of the vessel, when necessary, and of the cargo, the vessel must be regarded as doubtful and treated as such; and passengers or crew recently from south of said latitude would give the vessel the same doubtful character. And when quarantine shall have been declared upon the land borders of the State, the same precautions must be taken in regard to all tropical productions and to passengers and employes transported in railroad cars or steamboats or other vessels into Texas.

Tenth. Whenever any preparations shall be made for disinfecting vessels, or vessels and cargoes, at any station on the coast, or on the land borders of the State, they must be submitted, with full descriptions, to the governor, who will pass upon them with the aid of the advising physician who shall have first inspected them, and in all such cases perfect safety must be assumed before they will be taken charge of by the health officer at any such station for use, and then under such conditions, regulations, and restrictions as may be stipulated.

Eleventh. The respective boards and officers acting under them will please examine and observe the laws of this State relating to quarantine, both in the Digest of Civil Statutes and in the General Laws of the Sixteenth Legislature, and all civil officers and citizens are respectfully requested to aid said officers in the enforcement of the laws and the regulations under them for the safety of the people of the State against the terrible ravages of infectious diseases, and especially of yellow fever, to which we are the more subject from our

southern locality and long warm weather in the spring, summer, and fall months.

Twelfth. Being invested with the great responsibility of aiding in protecting the lives of the people of Texas from infectious diseases entering our borders on the Gulf and on land, with the aid of an advising physician, I respectfully solicit information from any good citizen, at any station, port, or place, in or out of Texas, in relation to anything relating to quarantine, which after investigation may be believed to endanger the safety of the country, against contagious disease.

Thirteenth. In anticipation of the possibility of the yellow fever or other infectious disease entering the territory of the United States at some point north of the twenty-fifth degree of north latitude, the following directions are hereby requested to be observed, so as to promptly establish a quarantine on the eastern and northern borders of the State, as soon as it may become necessary, and to be then, and not until then, put in force and practical operation:

The county commissioners' court of Orange County will take control of the station at the railroad crossing of the Sabine River, near the town of Orange, and of the other crossings of said river leading to Texas in said county, and appoint a health officer, agents, guards, and employees therefor. The corporate authorities of Marshall will take like control of the station at Waskum, at the crossing of the Texas and Pacific Railroad of the Texas line, and of other crossings of said line in Harrison County, and appoint a health officer, guards, and employees in like manner. So the corporate authorities of Texarkana will take control of the station on the railroad at that place, and at such other crossings of Red River and the State line as are in Bowie County, and appoint a health officer, guards, and other employees therefor. And so the corporate authorities of Denison will take control of the station where the railroad crosses Red River near that place, and other crossings into Grayson County, and appoint a health officer, guards, and employees therefor in like manner, and be ready to take action of themselves upon receiving reliable information that the yellow fever has appeared at any place within the interior of the United States; and until more specific directions are given from this office they will enforce the quarantine regulations as nearly as practicable against any such infected places as are herein prescribed for the stations on the coast of Texas.

By the governor,

[L. S.]

T. H. BOWMAN,

Acting Secretary of State.

O. M. ROBERTS, Governor.

EFFECTS OF QUARANTINE ON INTER-STATE TRAFFIC.

In No. 46 of the Bulletin (page 351), a brief abstract was given of a report made by Dr. J. H. Ranch, secretary of the Illinois State Board of Health. In view of the importance of the subject, the report and accompanying table are here presented in full:

Inclosed herewith please find an official report of the tonnage of the Illinois Central Railroad at Cairo for the last six months of the years 1878 and 1879.

Tonnage forwarded from and received at Cairo.

Months.	Forwarded.	Forwarded.	Received.	Received.
	1878.	1879.	1878.	1879.
July	10,071,600	20,914,900	28,550,200	48,574,600
August	10,430,400	19,650,000	31,125,000	52,555,200
September	10,282,200	17,218,200	29,864,100	60,671,800
October	10,491,600	22,525,600	48,459,600	71,014,000
November	10,404,500	27,050,100	61,874,600	69,066,700
December	26,940,100	29,076,800	70,508,800	74,137,700
Total	87,300,600	129,838,900	367,411,200	567,063,800

In this statement will be found an illustration of the effect upon commerce by the different systems in vogue in the management of yellow fever in the respective years. While it is true that the general increase of trade had its influence, it is fair to assume that this is not sufficient to account for the difference that obtains in the statement. In 1878 there was practically a quarantine excluding everything that came from the South, while in 1879 it was one of inspection, excluding only dangerous articles. This result could not have been brought about without the co-operation of the National Board of Health, as our board without this co-operation could not have permitted the immense amount of material to be brought into the State from the South during the months of July, August, September, and October. It required my constant presence at Cairo (especially in July) and my repeated assurances to the local authorities that every precaution was being exercised at New Orleans and along the entire route to prevent the introduction and spread of the fever northward to allay their fears, as this year a large number of

the citizens of Cairo were favorable to a quarantine of exclusion. Such was the feeling of apprehension that fully one-third of the population of Cairo, from July 15 to September 1, were ready to leave the moment the first case appeared, no matter whether it was of foreign or local origin.

The Illinois Central Railroad pays to the State of Illinois 7 per cent. of its net earnings, and it is not presumption to say that the increase of revenue, as the result of the course pursued during the months of July, August, September, and October, 1879, amounted to more than three times the amount appropriated by the State for sanitary purposes. It must also be borne in mind that this does not include a statement of the difference in the receipts from passengers, or the trade of the Cairo and Vincennes and Cairo and Saint Louis Railroads, and of the river traffic.

To the same cause can be attributed the fact that we did not have a single case of yellow fever in our State in 1879.

SANITARY LEGISLATION IN KENTUCKY.

The following act was approved by the legislature of the State of Kentucky, April 28, 1880:

CHAPTER 125.

An act to amend an act entitled "An act to establish a State board of health, to provide for the appointment of local boards of health, and to empower the board of statisticians," approved March 16, 1878, and to impose penalties for violating certain provisions of this act.

Be it enacted by the General Assembly of the Commonwealth of Kentucky:

SECTION 1. That section second of the act to which this is an amendment be and is hereby repealed, and that the following section be enacted in lieu thereof:

The State board of health shall have general supervision of the health of the citizens of this State, shall study the vital statistics of this State, and strive to make intelligent and profitable use of the collected records of the causes of sickness and death among the people; they shall make sanitary investigations and inquiry concerning the causes of disease, and especially of epidemics and endemics, the causes of mortality and the effects of locality, employment, conditions, food, water supply, habits and other circumstances upon the health of the people.

They shall make sanitary inspection and surveys of such places and localities as they deem advisable, and when they may believe that there is a probability that any infectious or contagious disease will invade this State from any other State or county, it shall be their duty to take such action and adopt and enforce such rules and regulations as they may in the exercise of their discretion deem efficient in preventing the introduction or spread of such infectious or contagious disease or diseases within this State. The better to accomplish such objects, they are empowered and directed to establish and strictly maintain quarantine at such places as they deem proper, and are further empowered to make and enforce rules and regulations to obstruct and prevent the introduction or spread of infectious or contagious diseases to or within the State. They may establish quarantine ground in some suitable place, and establish the quarantine to be observed at such locality, and may there cause to be erected temporary buildings or hospitals necessary for the medical treatment of any persons who may be kept in quarantine and affected with contagious or infectious disease, for the inspection and disinfection of travelers' baggage, merchandise, and articles in transit through such quarantine grounds or stations, and they may enforce inspections of persons and articles at such stations or grounds as well as the purification of passengers from said quarantine station, and shall assign the charge and control of each quarantine station to a competent physician and his necessary assistants or employees, who shall receive such compensation as the board may fix as the value of their services. That all companies or individuals operating or controlling railroads, steamboats, coaches, public and private conveyances, and steamers plying the Ohio River or its tributaries in this State shall obey the rules and regulations when made and published by the State board of health. And any owner or owners, person or persons, having charge of any railway train, passenger coach, steamboat, or public or private conveyance, who shall refuse to obey each rule and regulations when made and published by the State board of health, shall be held to have committed a misdemeanor, and for each offense shall be punished by a fine not less than fifty and exceeding five hundred dollars, or be confined in the county jail not less than fifteen days nor exceeding two months, or be either so fined or imprisoned in the discretion of the court or jury trying the case, to be recovered by indictment in any court of competent criminal or penal jurisdiction.

SEC. 2. Section third of the act to which this is an amendment is also repealed, and in lieu thereof is enacted the following as section third:

The board shall hold its meetings semi-annually, at such places and times as the majority of the board may determine by a vote taken at the previous meeting of said board. A majority of the members shall constitute a quorum for the transaction of business. They shall elect the president of the board from their own number,

and may adopt rules, by-laws, and regulations subject to the provisions of this act. They are authorized to send either the secretary or a special committee of the board to consult and co-operate with the National Board of Health, the State boards of health of other States, or other sanitary organizations, with reference to location of public buildings and residences, drainage, water-supply, the disposal of excrement and garbage, the heating and ventilation of public and private buildings; and the board is empowered to co-operate with other State boards of health in prosecuting sanitary investigations, and whenever requested shall afford information to any community as to the proper methods of ventilating and heating the public buildings and school-houses in this commonwealth.

SEC. 3. That section fifth be so amended that the secretary shall hold his office during the faithful and efficient discharge of his official duties to the satisfaction of the board, and can be removed from office only at a regular meeting of said board, and by a majority of all members composing the board voting for his removal. He shall establish and keep his office at some centrally located place in this State, designated by the board, and shall perform all the duties prescribed by the act or required by the board.

SEC. 4. Section eight of the act to which this is an amendment is repealed, and instead thereof it is enacted as follows: It shall be the duty of the State board of health to appoint three or more intelligent and discreet persons, citizens residing in each county of this State, who shall constitute a local board of health for the respective counties in which they reside, and such persons, as members of the local board, shall hold their office for a term of two years from the date of their appointment; and such local boards are empowered, and it shall be their duty, to inaugurate and execute, and require the heads of families to execute, such sanitary regulations as the local board may consider expedient to prevent the outbreak and spread of cholera, small-pox, yellow fever, scarlet fever, diphtheria, and other epidemic diseases, and to this end may bring the infected population under prompt and proper treatment during premonitory or other stages of disease, and they are empowered to go upon and inspect any premises which they may believe are in an unclean or infectious condition; and said boards are authorized to enforce the rules and regulations adopted by the State board of health. And it shall be the duty of physicians practicing their professions in any county in which a local board is organized to report all or any of the above-mentioned diseases under their special treatment to such local board. And it shall be likewise the duty of heads of families to report any of said diseases, when known by them to exist in their respective families, to such local board or to some one member thereof within twenty-four hours from his or her knowledge of the existence of such disease; and such local board shall make report to the State board of health at least once in every three months, first, of the character of the infectious and epidemic diseases prevailing in their county; second, the number reported as affected with such disease; third, the action taken by such board in arresting the progress of such epidemics, and the visible effects of such action, and the local board shall receive such compensation for such services as the county court in which the local board is established shall in their discretion determine.

SEC. 5. In the counties bordering on the Ohio and Mississippi Rivers and on the State lines separating Kentucky from the States of West Virginia and Tennessee, the local boards of health are empowered to declare and maintain quarantine in said county or counties, or in any particular place or places therein, against the introduction of any contagious or infectious diseases prevailing in any other State or county: *Provided*, That so soon as such quarantine is established the local board declaring the same, through its presiding or chief officer, shall, in writing, notify the State board of health of such quarantine and the extent thereof, and thereupon the State board of health, in the exercise of its supervisory power over local boards, shall, as early as practicable, by their sanitary or executive committee, ascertain the necessity of such quarantine, and shall either approve of said quarantine and enforce same or declare the same raised.

SEC. 6. It is further enacted that the State board of health and its agents, employees, or the local boards of health, acting under the direction and regulations of the State board, when they have reasonable grounds to believe that any packet or other steamboat, barge, or other water craft navigating the Mississippi or Ohio Rivers, or any of their tributaries, is infected with any epidemic or infectious disease, are empowered to prevent the landing of such craft at any point or place on the Kentucky shore; and they are also empowered, when they have reasonable grounds to believe any railway train, coach, or other vehicle contains persons or articles infected with epidemic or infectious diseases, to detain at any station or point on such railway or road such train, coach, or vehicle for a time sufficient to disinfect or purify same, provided quarantine has been established at such station or place by action of said boards, and any railway conductor, driver, or person in charge of any coach or vehicle who shall willfully avoid or prevent the inspection or purification of the coaches or vehicles under his charge or control shall be guilty of misdemeanor and liable to the penalty hereinafter mentioned, to be recovered by indictment in any court of competent jurisdiction in the county or counties where the offense is committed.

SEC. 7. It shall be the duty of courts and justices of the peace having jurisdiction in examiners' trials of offenses punishable by in-

dictment to issue proper warrants or summons for the arrest and trial of persons charged with any misdemeanor under this act, and likewise the duty of county attorneys to prosecute cases arising under this act in the courts to which such warrants may be returned.

SEC. 8. Whenever the State board of health shall deem it necessary to send any member or members of said board to any place in this State for the purpose of establishing quarantine or to make any sanitary investigations or survey, said board may allow such member or members so sent reasonable compensation, to be paid out of the fund appropriated in this act.

SEC. 9. The local boards of health organized under this act are empowered, whenever cholera, yellow fever, or other dangerous and infectious disease breaks out in any city or town of this commonwealth, to isolate the infected house or houses and to cause the temporary removal of persons residing in the immediate neighborhood during the prevalence of such disease.

SEC. 10. That all the provisions of the original act passed March 16, 1878, to which this is an amendment and that are not repealed in this act, are re-enacted and declared to be in full force and effect.

SEC. 11. This act shall take effect from and after its passage.

(Signed)

J. M. BIGGER.

(Signed)

Speaker of the House of Representatives,
JAMES E. CASTRELLA,
Speaker of the Senate.

Approved April 28, 1880.

(Signed)

LUKE P. BLACKBURN.

By the governor.

(Signed)

SAM'L B. CHURCHILL,
Secretary of State.

COMMONWEALTH OF KENTUCKY,
Office of the Secretary of State.

I, Samuel B. Churchill, secretary of State of the commonwealth aforesaid, do hereby certify that the foregoing writing has been carefully compared by me with the original on file in this office, whereof it purports to be a copy, and that it is a true and exact copy of the same.

In testimony whereof, I hereto sign my name and affix my official seal. Done at Frankfort, this 3d day of May, A. D. 1880, and in the 27th year of the commonwealth.

[SEAL.] (Signed)

SAM'L B. CHURCHILL,
Secretary of State.
By THOS. A. HARRIS,
Assistant Secretary of State.

CALL FOR AN INTERNATIONAL SANITARY CONFERENCE.

[PUBLIC RESOLUTION No. 26.]

Joint resolution authorizing the President of the United States to call an international sanitary conference to meet at Washington, District of Columbia.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby authorized to call an international sanitary conference to meet at Washington, District of Columbia, to which the several powers having jurisdiction of ports likely to be infected with yellow fever or cholera shall be invited to send delegates, properly authorized, for the purpose of securing an international system of notification as to the actual sanitary condition of ports and places under the jurisdiction of such powers and of vessels sailing therefrom.

Approved May 14, 1880.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

BIRMINGHAM, AL.—May 10. Dr. George M. Okford reports that the city has been free from epidemic diseases during the past month. But few cases of diphtheria have appeared, and catarrhal affections are chiefly noted. Referring to the question of fees for certificates of vital statistics, Dr. Okford says, that in Birmingham a fee of 25 cents is paid for each certificate so given, and he thinks that this measure seems very complete returns.

PORT POINT, TEXAS.—Dr. R. W. Dunsen reports, April 30, that the epidemic of measles which has prevailed there for two months has not yet abated, and a number of fatal cases occurred in April. Dysentery has been frequently met with lately, but no deaths are reported. An unusual drought has lasted nearly a year, and the water supply is now very limited, giving reason to anticipate an unhealthy summer. In the absence of any health organization in Denton County, reliable data as to diseases and mortality cannot be obtained.

ST. JOHN'S, NEWFOUNDLAND.—Under date of May 1, United States Consul T. S. Mallory reports that since a visitation of cholera in 1874, there has been no epidemic disease on the island. In 1872, three cases of small-pox occurred, introduced by Spanish vessels, but the disease did not spread, and the general health of the inhabitants is remarkably good.

Name of hospital.	Character of hospital.	Number of beds.	Patients at last report.										Totals.		
			Com- pound.	Group.	Dys- entery.	Fever, enteric.	Fever, malaria.	Fever, scarlet.	Lung dis- eases, acute.	Measles, acute.	Puer- peral dis- ease.	Small- pox.			
Hartford Hospital.	General.	120	91	1	1	1									
Albany Hospital.	do	125	49	1	3										
Indiana.	do														
General Hospital.	do	100	670	9	264										
Charity Hospital.	New York City, N. Y.	100	670	9	264										
German Hospital.	New York City.	100	670	9	264										
St. Mary's Island Hospital.	Hart Island, N. Y.	300	244												
St. Francis Hospital.	New York City.	100	670	9	264										
St. James Hospital.	New York City.	100	670	9	264										
St. Vincent's Hospital.	New York City.	100	670	9	264										
St. John's Hospital.	New York City.	100	670	9	264										
St. Mary's Hospital.	New York City.	100	670	9	264										
St. John's Riverside Hospital.	New York City.	100	670	9	264										
St. Michael's Hospital.	New York City.	100	670	9	264										
St. Vincent's Hospital.	New York City.	100	670	9	264										
St. Mary's Hospital.	New York City.	100	670	9	264										
St. John's Hospital.	New York City.	100	670	9	264										
St. Michael's Hospital.	New York City.	100	670	9	264										
St. Vincent's Hospital.	New York City.	100	670	9	264										
St. Mary's Hospital.	New York City.	100	670	9	264										
St. John's Hospital.	New York City.	100	670	9	264										
St. Michael's Hospital.	New York City.	100	670	9	264										
St. Vincent's Hospital.	New York City.	100	670	9	264										
St. Mary's Hospital.	New York City.	100	670	9	264										
St. John's Hospital.	New York City.	100	670	9	264										
St. Michael's Hospital.	New York City.	100	670	9	264										
St. Vincent's Hospital.	New York City.	100	670	9	264										
St. Mary's Hospital.	New York City.	100	670	9	264										
St. John's Hospital.	New York City.	100	670	9	264										
St. Michael's Hospital.	New York City.	100	670	9	264										
St. Vincent's Hospital.	New York City.	100	670	9	264										
St. Mary's Hospital.	New York City.	100	670	9	264										
St. John's Hospital.	New York City.	100	670	9	264										
St. Michael's Hospital.	New York City.	100	670	9	264										
St. Vincent's Hospital.	New York City.	100	670	9	264										
St. Mary's Hospital.	New York City.	100	670	9	264										

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
			1880.															
Canada.	Kingston.	16,000	May 8	18	58.7													54.3
Bermuda.	Hamilton.	11,867	May 11	1	3.5													72.5
Cuba.	Havana.	135,437	May 1	136	36.3					11	9							80
Mexico.	Mamoras.	165	May 1	19.5	1													79.2
Ireland.	Belfast.	250,000	Apr. 21	114	25.9					9	10	1				21	3	49.4
Do.	do.	230,000	May 1	113	25.6					2	1	10	4			17	3	46.5
Do.	Dublin.	314,666	Apr. 23	216	35.7						8		5				20	
Do.	do.	314,666	May 23	231	38.2												1	45.1
Scotland.	Dundee.	155,000	Apr. 24	93	31.3											99	3	49.3
Do.	Glasgow.	589,598	Apr. 17	267	23.6							1					47	44
Do.	do.	589,598	Apr. 24	287	25.4							5					24	49
Do.	Leith.	58,479	May 1	38	33.8												7	45.1
England.	Bristol and Clifton.	212,500	Apr. 24	106	25.9							3					11	48.9
Do.	Newcastle.	148,000	Apr. 23	58	29.5												2	
Do.	London.	3,254,260	Apr. 24	1,417	29.2						15	10		1			169	
France.	Paris.	1,988,806	Apr. 22	1,238	32.48						60	50					106	
Do.	Nancy.	92,068	Apr. 24	49	28.8												15	51.4
Do.	Rouen.	161,902	Apr. 23	50	24.9													
Do.	do.	161,902	May 1	73	36.3													
Do.	Lyons.	312,815	Apr. 24	197	29.9						4						8	
Switzerland.	Zurich.	22,163	Apr. 24	6	14.2													
Holland.	Rotterdam.	150,578	May 1	62	21.5												15	
Do.	Amsterdam.	315,952	Apr. 24	184	30.3							3	4				17	54
Germany.	Berlin.	1,087,500	Apr. 17	624	29.8							3	4	2		175	74	57.7
Do.	Breslau.	276,000	Apr. 17	158	29.8						1						15	51.4
Do.	Brunswick.	74,133	Apr. 24	44	31.0							12	2				24	
Do.	Frankfort-on-Main.	128,000	Apr. 17	74	30.2												2	59.9
Do.	do.	128,000	Apr. 24	44	21.9												1	71.8
Do.	Hagen.	95,000	Apr. 24	30	29.8													50
Do.	Mannheim.	50,500	May 1	19	19.6													48.7
Bavaria.	Munich.	100,000	Apr. 17	75	39.1												5	53.1
Belgium.	Antwerp.	173,613	Apr. 10	92	27.6						47	19	21			1		44.6
Do.	do.	173,613	Apr. 17	101	30.3						45	20	17	6				58.5
Do.	do.	173,613	Apr. 24	97	29.1						56	32	11	1				48.2
Do.	Brussels.	106,648	Apr. 23	148	28.9						12	4	3				6	56.1
Saxony.	Chemnitz.	90,017	Apr. 17	45	26.1												1	56
Do.	Dresden.	218,000	Apr. 24	101	21.2							1					8	57
Do.	Leipzig.	160,000	May 1	51	19.9												3	45.7
Denmark.	Copenhagen.	255,000	Apr. 20	151	33.5							3	2			13		50.4
Italy.	Leghorn.	97,063	May 1	34	18.1													62.9
Do.	Rome.	300,382	Apr. 10	235	40.4							1					27	54.5
Austria.	Trieste.	128,232	Apr. 10	138	45.9													50.7
Do.	do.	128,232	Apr. 17	85	34.6						1	1						61.1
Do.	Vienna.	716,243	Apr. 21	491	29.8						10		1				22	61.5
Russia.	St. Petersburg.	699,711	Apr. 17	765	59.1												41	
Russian Poland.	Warsaw.	250,000	Apr. 17	193	29.6													43.7
Sweden.	Stockholm.	169,129	Apr. 17	87	28.1												9	43.5
Norway.	Christiania.	116,491	Apr. 17	47	29.9												8	43.5
Morocco.	Tangier.	15,000	Apr. 17	23	80.0						7	4	1					64.1
Do.	do.	15,000	Apr. 21	18	82.6						8	2	2					62.1
Barbary.	Tripoli.	20,000	Apr. 21	14	36.5													69.1

ADOPTION OF RULES AND REGULATIONS.

MISSISSIPPI CITY, May 10.—In compliance with the instructions of the board of health of Harrison County, Miss., a copy of the following resolution adopted by that board is forwarded by Dr. T. S. Hewes, secretary:

Resolved, That the secretary inform the National Board of Health, and the New Orleans Auxiliary Association, that at our first meeting, held May 10, 1880, the desire was expressed by all the members of our board to adopt the rules and regulations of the National Board as far as it lies in our power, and to fully co-operate with them in all health and quarantine matters; and that, fully recognizing that the interests of New Orleans and those of the Gulf Coast are identical, it is likewise our wish, whenever deemed necessary, to communicate with the New Orleans Auxiliary Association, so as to secure harmony of action as regards the hygienic interests of our people, with the least possible interference with commerce and travel.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

REPLIES TO QUESTIONS FOR HEALTH AUTHORITIES.

The following questions, prepared by Dr. J. H. Raymond, sanitary superintendent, health department, Brooklyn, N. Y., a correspondent of the National Board of Health, were proposed (see BULLETIN No. 37), for the purpose of securing replies from persons interested in the subject to which they refer. Replies to these various questions, numbered in like manner, are here presented in tabular form:

QUESTIONS.

1. Are contagious diseases reported to the health authorities?
2. What are the contagious diseases so reported?
3. Are these reports obligatory or voluntary: if obligatory, upon whom?
4. Is there any penalty for failure to report: if so, what?
5. What is the form of report?
6. Are those who make the reports compensated in any way?
7. Are schools notified of the locations where contagious diseases exist: if so, how, and how often?
8. Are children from infected houses excluded from school attendance?
9. Is such exclusion obligatory or voluntary?
10. If obligatory, upon whom, and what is the penalty if they are not excluded?
11. At what time are such children permitted to return to school, and upon what form of authorization?
12. Does the health authority send inspectors to houses from which contagious diseases are reported?
13. What do the inspectors do when they visit the premises?
14. Do they examine the plumbing?
15. If defects are found what steps are taken to remedy them?
16. Is there any ordinance or law requiring such defects to be remedied: if so, what are the penalties for neglecting to make the repairs ordered?
17. Is fumigation practiced after recovery and death: if so, how, and by whom?

1. Are contagious diseases reported to the health authorities?

State.	Town.	
Maryland.....	Baltimore.....	Some physicians report, but a great many neglect to do so.
Massachusetts.....	Bridge-water.....	No, but by law are obliged to be.
Wisconsin.....	Milwaukee.....	Yes.
West Virginia.....	Wheeling.....	Yes, partially.
Delaware.....	Wilmington.....	No, there is no law requiring it.
Michigan.....	Saginaw.....	Yes.
New York.....	Lockport.....	Yes, or a penalty of \$50.
Pennsylvania.....	Pittsburgh.....	Yes.
New York.....	Brooklyn.....	Yes.
Missouri.....	Saint Louis.....	Yes, by ordinance of municipal assembly.

2. What are the contagious diseases so reported?

Maryland.....	Baltimore.....	Small-pox, scarlet fever, measles, and diphtheria.
Massachusetts.....	Bridge-water.....	"
Wisconsin.....	Milwaukee.....	Small-pox, scarlet fever, diphtheria, to which others may be added at the discretion of the health officer.
West Virginia.....	Wheeling.....	Small-pox, varioloid, Asiatic cholera, specifically, other formidable contagious diseases, generally, and as the health officer has only daily supervision of the first three named, others are not reported.
Michigan.....	Saginaw.....	Scarlatina, measles, diphtheria, small-pox, cholera, whooping-cough, and typhoid fever.
New York.....	Lockport.....	Small-pox only is reported.
Pennsylvania.....	Pittsburgh.....	In the language of the law: "Any malignant infectious or pestilential disease, such as small-pox, cholera, yellow or ship fever."
New York.....	Brooklyn.....	Diphtheria, scarlet fever, measles, small-pox, typhoid fever, cerebri spinal meningitis, and occasionally whooping-cough.
Missouri.....	Saint Louis.....	Small-pox, varioloid, measles, scarlatina, diphtheria, and croup, whooping-cough, and yellow fever.

3. Are these reports obligatory or voluntary? If obligatory, upon whom?

State.	Town.	
Maryland.....	Baltimore.....	Entirely voluntary.
Massachusetts.....	Bridge-water.....	Obligatory upon physicians and householders, and by the same to be published.—Regulations of our town board of health, which have the force of law and penalty for violation. (Mass. Gen'l Sts., c. 26, secs. 17, 48.)
Wisconsin.....	Milwaukee.....	Obligatory on attending physician.
West Virginia.....	Wheeling.....	Obligatory on the householder where they occur, and upon the attending physician.
Delaware.....	Wilmington.....	Not obligatory; only reported when the physician directs it.
Michigan.....	Saginaw.....	Obligatory upon physicians and householders.
New York.....	Lockport.....	Obligatory upon physicians or persons acting as such: penalty, \$50.
Pennsylvania.....	Pittsburgh.....	Obligatory upon physicians.
New York.....	Brooklyn.....	Obligatory upon attending physicians, upon keepers of boarding or lodging houses, inn and hotel keepers, managers and principals of public and private institutions, models, chief officers, and consignees of vessels, upon every individual knowing of a case of contagious disease not properly cared for and liable to spread disease.
Missouri.....	Saint Louis.....	Obligatory on physicians.

4. Is there any penalty for failure to report: if so, what?

Maryland.....	Baltimore.....	None whatever.
Massachusetts.....	Bridge-water.....	Penalty not to exceed \$100.
Wisconsin.....	Milwaukee.....	Penalty a fine not exceeding \$250.
West Virginia.....	Wheeling.....	Yes: \$20 fine upon conviction.
Michigan.....	Saginaw.....	Yes: a fine of \$50 to \$100.
New York.....	Lockport.....	Yes: a fine of \$50.
Pennsylvania.....	Pittsburgh.....	Penalty, \$50.
New York.....	Brooklyn.....	Yes; imprisonment in the county jail not exceeding thirty days, or a fine of not more than \$200, or both.
Missouri.....	Saint Louis.....	Penalty for a failure to report is a fine of not less than \$10 nor more than \$50, upon conviction.

5. What is the form of report?

Maryland.....	Baltimore.....	No specified form; generally by letter to commissioner of health.
Massachusetts.....	Bridge-water.....	Not specified.
Wisconsin.....	Milwaukee.....	Report of sick cases, name of patient in full, sex, patient's nationality, patient's birth place, street and number, ward, age, single or married, disease. "Max. name penalty for neglect to make daily report to the commissioner of health, \$250."
West Virginia.....	Wheeling.....	No particular form.
Michigan.....	Saginaw.....	Names of persons, sex, age, in years, last birthday, name of disease, taken sick month, day, and year; whether dead, living, or recovered; date of death or recovery; month, day, and year.
New York.....	Lockport.....	No special form; call on some member of board of health and report or by letter or postpaid card.
Pennsylvania.....	Pittsburgh.....	Name, age, sex, location, number street and ward of all cases of small-pox, cholera, typhus fever, typhoid fever, scarlet fever, cerebro spinal fever, and diphtheria, and if small-pox, has the patient been vaccinated; will he require removal to hospital; sanitary condition of premises, and remarks. At
New York.....	Brooklyn.....	The ordinance require in writing the name and address of patient and the nature of the disease. The board of health has adopted the following form, which is in constant use at the present time by physicians to the board of health. Full name of patient, age, residence, ward, district, number of families in house, on what floor, and condition of premises.
Missouri.....	Saint Louis.....	Particulars of the form used given gradually, from health registered physicians on application.

6. Are those who make the reports compensated in any way?

Maryland.....	Baltimore.....	None, save the approval of a good conscience.
Massachusetts.....	Bridge-water.....	No.
Wisconsin.....	Milwaukee.....	There is not.
West Virginia.....	Wheeling.....	No.
New York.....	Lockport.....	No.
Pennsylvania.....	Pittsburgh.....	No.
New York.....	Brooklyn.....	No.
Missouri.....	Saint Louis.....	None, except on occasion given.

7. Are schools notified of the locations where contagious diseases exist; if so, how and how often?

State.	Town.	
Maryland.....	Baltimore.....	Yes; the parent, upon the certificate of a physician, notifies the principal of the school within 24 hours; is fined \$10 for failure to do so; if no physician, the parent must report.
Massachusetts.....	Bridgewater.....	There has been nothing to call for it.
Wisconsin.....	Milwaukee.....	Both public and private schools are notified every time a case occurs. A transcript of the form before noted is sent to these schools.
West Virginia.....	Wheeling.....	No; voluntary on part of health officer.
Delaware.....	Wilmington.....	Not obligatory; only reported when the physician directs it.
Michigan.....	Saginaw.....	Yes; by health officer, as often as he thinks it necessary.
New York.....	Lockport.....	No.
Pennsylvania.....	Pittsburgh.....	Yes; by sanitary inspectors of board of health as the cases occur.
New York.....	Brooklyn.....	Yes; by notices stating the name and address of all cases of contagious disease, written with the electric pen, and sent daily by mail to all the public schools and the large private ones.
Missouri.....	Saint Louis.....	Information is given to schools whenever the occurrence of contagious disease in other than a sporadic form demands it.

8. Are children from infected houses excluded from school attendance?

State.	Town.	
Maryland.....	Baltimore.....	Yes.
Massachusetts.....	Bridgewater.....	By the forthcoming regulations of the town board, April 1, 1889; in the past no occasion to do so.
Wisconsin.....	Milwaukee.....	They are.
West Virginia.....	Wheeling.....	Yes.
Delaware.....	Wilmington.....	When physicians, parents, or teachers so direct.
Michigan.....	Saginaw.....	Yes.
New York.....	Lockport.....	By the school authorities, and this would probably be insisted on if the authority of the school principals were questioned by the board of health.
Pennsylvania.....	Pittsburgh.....	Yes.
New York.....	Brooklyn.....	Yes.
Missouri.....	Saint Louis.....	They are excluded.

9. Is such exclusion obligatory or voluntary?

State.	Town.	
Maryland.....	Baltimore.....	Obligatory.
Massachusetts.....	Bridgewater.....	Obligatory.
Wisconsin.....	Milwaukee.....	Obligatory by rule of board of education.
West Virginia.....	Wheeling.....	Obligatory.
Michigan.....	Saginaw.....	Obligatory.
New York.....	Lockport.....	The board of health have power to enforce their orders; there is nothing definite written on this special subject.
Pennsylvania.....	Pittsburgh.....	Obligatory.
New York.....	Brooklyn.....	Obligatory.
Missouri.....	Saint Louis.....	Obligatory.

10. If obligatory, on whom, and what is the penalty if they are not excluded?

State.	Town.	
Maryland.....	Baltimore.....	The principal of the school, if failing to exclude, fined \$10 for each offence.
Massachusetts.....	Bridgewater.....	Penalty not more, and \$100; obligatory upon parents and teachers, but who pays the penalty the lawyers must determine.
Wisconsin.....	Milwaukee.....	Upon principal of school; penalty, fine not more than \$500 or imprisonment not more than six months, or both.
West Virginia.....	Wheeling.....	Teacher, no penalty.
Michigan.....	Saginaw.....	Obligatory to teachers, parents, physicians.
New York.....	Lockport.....	Same answer as given to question No. 9.
Pennsylvania.....	Pittsburgh.....	Upon parents or guardians; no penalty, except exclusion, provided in school laws.
New York.....	Brooklyn.....	Obligatory upon principals and superintendents of schools, parents and custodians of the sick children; penalty, imprisonment not exceeding thirty days, or fine of \$200, or both.
Missouri.....	Saint Louis.....	Obligatory on parents or guardians at a fine, upon conviction, of not less than \$7 nor more than \$10, and upon principals or teachers of private and public schools a fine of \$5 to \$10.

11. At what time are such children permitted to return to school, and upon what form of authorization?

State.	Town.	
Maryland.....	Baltimore.....	When the attending physician certifies that all danger from contagion has passed.

11. At what time are such children permitted to return to school, and upon what form of authorization?—Continued.

State.	Town.	
Massachusetts.....	Bridgewater.....	Heretofore, at least four weeks from commencement of scarlet fever. By our new regulations (April 1, 1889), when contagious or infectious disease makes its appearance in any house the attendance at school of all scholars residing in the house shall be forthwith suspended, and it shall be resumed only on the written order of some member of this board.
Wisconsin.....	Milwaukee.....	When disease occurs in house where they live and the house has been disinfected. Form enclosed.
West Virginia.....	Wheeling.....	Opinion of physician as to time; his certificate.
Delaware.....	Wilmington.....	No definite time fixed.
Michigan.....	Saginaw.....	The time depends upon the disease (an average of ten to twenty-one days). The authorization is given by the attending physician or health officer.
New York.....	Lockport.....	No special time, and in case of small-pox the board of health would probably fix a time.
Pennsylvania.....	Pittsburgh.....	After notice from sanitary inspectors or attending physicians that in their opinion no further danger of infection exists.
New York.....	Brooklyn.....	When patient is no longer in a condition to communicate the disease, and premises fumigated, and a permit obtained from the board of health.
Missouri.....	Saint Louis.....	Undoubted proof is to be given to principals and teachers before they may permit a return of such children.

12. Does the health authority send inspectors to houses from which contagious diseases are reported?

State.	Town.	
Maryland.....	Baltimore.....	Yes; immediately.
Massachusetts.....	Bridgewater.....	Will do so, but excepting an occasional case of typhoid fever or diphtheria, such occasions have been rare.
Wisconsin.....	Milwaukee.....	It does.
West Virginia.....	Wheeling.....	Yes, as to small-pox, varioloid, and cholera.
Delaware.....	Wilmington.....	No. There is no law requiring it.
Michigan.....	Saginaw.....	Yes.
New York.....	Lockport.....	In case of small-pox.
Pennsylvania.....	Pittsburgh.....	Yes.
New York.....	Brooklyn.....	Yes.
Missouri.....	St. Louis.....	Inspectors are sent in many cases; for instance to tenement houses, to localities that are more or less in an unsanitary condition, to houses where several cases occur in succession, &c.

13. What do the inspectors do when they visit the premises?

State.	Town.	
Maryland.....	Baltimore.....	They make a thorough inspection of the premises and surroundings, and in case of small-pox or varioloid, if parties will consent to go, send patients to the Marine Hospital; but if they refuse to go to the hospital, a yellow flag is immediately placed over the door of the house to warn persons from entering, and as soon as the patient is removed, dies, or recovers, all articles of clothing, bedding, carpets, &c., are taken charge of by the inspector, appraised, and immediately removed and burned, the city either paying the appraised value, or replacing the articles destroyed.
Wisconsin.....	Milwaukee.....	Examine everything.
West Virginia.....	Wheeling.....	May guard house and designate by flag.
Michigan.....	Saginaw.....	They inspect as closely as possible the whole house and premises.
New York.....	Lockport.....	Nothing principally. Give some orders about seclusion, &c.
Pennsylvania.....	Pittsburgh.....	Carefully inspect the premises and surroundings, notify the proper persons to abate any nuisance and supposed cause of disease that may be found, furnish the family with printed instructions as to the proper measures, &c., and in case of small-pox or varioloid, place upon the house a sign, "Small-pox here."
New York.....	Brooklyn.....	Ascertain if any children attend school, and notify the principals at once by postal card, in addition to the regular electric notice, directing the exclusion until the permit for their return is obtained from the board of health; they notify other families in the house of the existence of contagious disease; they leave a circular of recommendation as to isolation, cleanliness, disinfection, and fumigation; they examine the house from attic to cellar, and the yard for filth; they examine the plumbing for untrapped leaking or otherwise defective waste-pipes.
Missouri.....	St. Louis.....	The house, its neighborhood, its water-supply, sewage, privies or water-closets, ventilation, &c., are examined.

14. Do they examine the plumbing?

State.	Town.	
Maryland.....	Baltimore.....	Yes; very minutely.
Wisconsin.....	Milwaukee.....	They do.
West Virginia.....	Wheeling.....	No.
Michigan.....	Saginaw.....	If there is any, and if suspicious, of course.
New York.....	Lockport.....	No; unless the individual feels so disposed.
Pennsylvania.....	Pittsburgh.....	In some cases.
New York.....	Brooklyn.....	Yes.
Missouri.....	Saint Louis.....	The plumbing is examined.

15. If defects are found, what steps are taken to remedy them?

Maryland.....	Baltimore.....	They receive a pre-emptory order from the commissioner of health to reconstruct or repair the plumbing in a proper manner.
Massachusetts.....	Bridge-water.....	Notice calling attention will be given. If neglected, legal notice will be served.
Wisconsin.....	Milwaukee.....	Order is issued by commissioner of health.
Michigan.....	Saginaw.....	There is no law.
New York.....	Lockport.....	None.
Pennsylvania.....	Pittsburgh.....	Notify the owner of the defect.
New York.....	Brooklyn.....	Orders are issued upon the proper parties to remove the filth and repair defects in plumbing.
Missouri.....	Saint Louis.....	When found defective, the recommendation of the health authorities to remedy, and in what way, is communicated to the householders, agents, or attendants.

16. Is there any ordinance or law requiring such defects to be remedied? If so, what are the penalties for neglecting to make the repairs ordered?

Maryland.....	Baltimore.....	The order of the commissioner of health in such cases must be obeyed; otherwise, the work will be done by the department and payment enforced by law.
Massachusetts.....	Bridge-water.....	The authority to enforce it is in the town board of health, according to their judgment. The statute law enforces their judgment and their regulations. Penalties not over \$100. The power to enforce is so powerful we may be too slow to exercise it.
Wisconsin.....	Milwaukee.....	Ordinance, State statute, and common law. Penalty as in No. 10.
West Virginia.....	Wheeling.....	Ordinance giving health officer supervision of drains and sinks.
Michigan.....	Saginaw.....	There is no law.
New York.....	Lockport.....	No.
Pennsylvania.....	Pittsburgh.....	Unfortunately, nothing specific.
New York.....	Brooklyn.....	Yes; penalty, imprisonment not exceeding 30 days or fine \$200, or both.
Missouri.....	Saint Louis.....	Ordinance of municipal assembly 11,228, provides also drains, &c., and provides penalty of not less than \$10 nor more than \$100 for violation.

17. Is fumigation practiced after recovery and death; if so, how and by whom?

Maryland.....	Baltimore.....	Yes, in every case, generally by the inspector, sometimes by the occupants of the premises under instructions from the inspector. Sulphuric acid gas being used for the purpose.
Massachusetts.....	Bridge-water.....	None required.
Wisconsin.....	Milwaukee.....	Yes, by a trained officer of the department, means sulphuric acid and vapor by burning in a closed room 1 pound of sulphur to every 1,000 cubic feet of space. Also persons are excluded from public library. In addition undertakers, druggists, and all others concerned, are prohibited from holding public funerals or viewing corpses at private funerals of persons deceased from infectious disease, under penalty same as in Nos. 19 and 16. In such cases no person under 15 years of age is allowed to be present. Again, all houses severely outside doors are placed under quarantine and no one is permitted to enter until recovery or death and disinterred by health officer. Moreover all railroad companies and other public carriers are prohibited from bringing to or carrying from the city any person with infectious disease either alive or dead under penalty same as in Nos. 19 and 16. In this case the common law in the absence of contravening statutes is enforced and the people and the courts sustain the order.
West Virginia.....	Wheeling.....	Yes as to small pox, varioloid and cholera. Fumigation is discontinued at the option of the health officer and under his supervision.
Delaware.....	Wilmington.....	When directed by the physician.
Michigan.....	Saginaw.....	By the parties concerned, watched by the attending physician, or, if necessary, by the health officer.

17. Is fumigation practiced after recovery and death; if so, how and by whom?—Continued.

State.	Town.	
New York.....	Lockport.....	In the case of small pox it may be, according to the opinion of the health physician.
Pennsylvania.....	Pittsburgh.....	Yes, by the family under the supervision of the sanitary inspector.
New York.....	Brooklyn.....	Yes, with sulphur, one pound to every 1,000 cubic feet of space, to be fumigated, lasting from six to ten hours. The ordinances require it to be done by those having charge of the rooms where the sickness occurs; as a matter of fact it is done by the board of health in most cases.
Missouri.....	Saint Louis.....	Fumigation is practiced by the health department invariably after cases of varioloid and yellow-fever have occurred. Also, should other contagious diseases show alarming frequency or a malignant type. Sulphur considered most practical and efficient. Thorough cleaning and ventilation insisted upon.

EXPERIMENTS WITH DISINFECTANTS—Continued.

[By GEORGE M. STERNBERG, Surgeon U. S. Army.]

Experiment No. 39, March 10.—Thirteen **U** tubes prepared as in last experiment. (BULLETIN No. 37, p. 257.) A little boiled urine was introduced into each tube. Three tubes were inoculated with filtering paper which had been dipped into putrid urine containing bacteria, and then exposed for six hours in bottles (capacity 50 fl. oz.) containing $\frac{1}{2}$ per cent. of sulphurous acid gas; three tubes, $\frac{1}{2}$ per cent. of nitrous acid gas; three tubes, $\frac{1}{2}$ per cent. of chlorine. Two tubes inoculated with paper dipped in putrid urine and not disinfected, and two tubes left with boiled urine only. The open end of each tube was plugged with cotton. *Result, March 15:* All the tubes are free from bacteria except the two inoculated with filtering paper not disinfected.

Experiment No. 40, March 17.—The above experiment was repeated, exposing the filtering paper dipped in putrid urine to $\frac{1}{2}$ per cent. of the disinfectants, for six hours. *Result:* The sulphurous acid tubes broke down in two days, the nitrous acid tubes in four or five days, and the chlorine tubes remained free from bacteria at the end of two weeks.

Experiment No. 41, April 3.—The above experiment was repeated, using pure carbolic acid (crystals) as the disinfectant. Twenty grains placed in bottle No. 1, ten grains in bottle No. 2, five grains in bottle No. 3; the filtering paper was suspended near the bottom of the bottle. Time of exposure, 36 hours. *Result, April 11:* No bacteria in any of the tubes. Abundant bacteria in tube inoculated with non-disinfected paper.

Experiment No. 42, April 12.—The above experiment repeated, using pure carbolic acid, grs. x, grs. v, and gr. i. Time of exposure, six hours. *Result, April 19:* No bacteria in the three tubes inoculated from bottle No. 1 (30 grs.). Abundant bacteria in the six tubes inoculated from bottles No. 2 and No. 3 (grs. v, gr. i).

Experiment No. 43, April 21.—Experiment repeated, using impure carbolic acid—crude carbolic acid, manufactured by Mahomed & Co., Saint Louis, and sold in New Orleans for disinfecting purposes. Amount of disinfectant used—bottle No. 1, 40 grains; bottle No. 2, 20 grains; bottle No. 3, 10 grains. Time of exposure, six hours.

Note.—To favor volatilization, slips of filtering paper were saturated with the crude acid and placed upon the bottoms of the bottles (capacity 50 fluid ounces). The slips of paper to be disinfected were suspended about the middle of each bottle. *Result, April 21:* All the tubes have broken down and have a distinct white film of bacteria upon the surface of the fluid.

Remarks.—The amount of pure acid required to destroy the vitality of bacteria (10 grains, experiment No. 42) is equal to about 17 pounds in a room twelve feet square and 12 feet high capacity 1,728 cubic feet, and to fulfill the conditions of the experiment in disinfecting on a large scale, it would be necessary to scatter this amount over the floor of a room having those dimensions, and to suspend articles to be disinfected near the floor for at least six hours, care being taken that all apartments were closed so that the fumes of the acid might not escape. Experiment No. 43 shows that four times this amount (68 pounds) of "crude" acid placed upon the floor of a room of the same dimensions would not destroy the vitality of bacteria exposed in the room for six hours. Experiment No. 24 (BULLETIN No. 29) shows that an amount of the impure acid equal to 46 fluid ounces volatilized in the same room will not destroy the potency of vaccine virus, in a moist state rubbed up with glycerine when the time of exposure is twelve hours. Finally, these experiments show that the popular idea, shared perhaps by some physicians that an odor of carbolic acid in the sick room, or in a foul privy is evidence that the place is disinfected, is entirely fallacious, and in fact, that the use of this agent as a volatile disinfectant is impracticable, because of the expense of the pure acid and the enormous quantity required to produce the desired result.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES.

State, town, or city.	Title of board.	No. of members.	Boundaries in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
ALABAMA.									
Alabama	Board of Censors and Commissioners of Public Health.	10	The State	1877	Medical Association of State of Alabama.	J. Cochran, M. D., senior censor. T. A. Means, secretary. C. A. Ketchum. J. J. Dement. W. H. Johnston. J. W. Sears. C. D. Parke. J. S. Weatherly. G. E. Kempe. J. B. Gaston. S. D. Selwyn.	Annually	Yes.	Montgomery.
Blount Springs ..	Blount Springs Board of Health.	2	Town limits ..	1878	Citizens	G. M. Legrand, intendant. J. C. Lee, health officer.	When necessary	No.	Blount Springs.
Greenville	Board of Health of Butler County.	13	Butler County ..	1878	By State law ..	J. Thigpen, M. D., president W. T. Kendrick, secretary (3). T. J. Palmer, secretary. C. R. Sampley, health officer.	Monthly	No.	Greenville.
Selma	Selma Board of Health.	15	Dallas County ..	1867	Act of legislature ..	J. P. Furniss, president .. F. Tipton, secretary.	do	Yes.	Selma.
Sampter County ..	Sampter County Board of Health.	21	Sampter County ..	1875	By act of legislature ..	R. D. Webb, M. D., secretary and health officer.	Semi-annually ..	No.	Address of secretary, Livingston.
ARKANSAS.									
Arkansas	State Board of Health of Arkansas.	10	State	1879	State Medical Society.	A. L. Breyer, M. D., president. J. A. Dibrell, M. D., sec'y. J. N. Bragg, M. D., pres't. J. M. Brown, M. D., sec'y.	Annually	No.	President's address, Little Rock.
Camden	Camden Board of Health.	5	(?)	(?)	(?)	W. S. D. Alexander, M. D., president. Harry Blum, secretary. T. J. Reiff, M. D. W. A. Dobbins, M. D. John Marshall.	(?)	(?)	Camden.
Carlisle	Carlisle Board of Health.	5	Five miles	1879	Town council ..		As required ..	Yes.	Carlisle.
CALIFORNIA.									
California	State Board of Health of California.		State			H. Gibbons, sr., M. D., president. F. W. Hatch, M. D., sec'y. F. W. Todd, M. D. A. B. Stout, M. D. L. Robinson, M. D. J. S. Cameron, M. D. J. E. Montgomery, M. D.		Yes.	President, San Francisco; secretary, Sacramento.
Chico	Chico Board of Health	5	Corporation limits.	1879	Town trustees ..	G. W. Davis, president. R. F. Clarke, secretary. M. V. Loy. J. L. Knowlton. J. W. Gilkison.	At call	No.	Chico, Butte County.
Los Angeles	Board of Health of Los Angeles.	5	do	1873	By ordinance ..	J. K. Tobelman, mayor ... W. P. Laxton, president city council. W. H. Workman. O. H. Bliss. I. P. McDonald. Dr. Josiah H. Crane, pres't. Dr. J. R. Christie, secretary. L. H. Patty, M. D. G. W. Graves, M. D. F. K. Zook, civil engineer. Dr. W. A. Huxton, pres't. Dr. George Pyburn, sec'y. Dr. L. J. Kellogg. Dr. A. G. Henry. Dr. G. Hart.	Weekly	Yes.	Los Angeles.
Petaluma	Board of Health of Petaluma.	5	City limits	1878	Board of city trustees		Monthly	No.	Petaluma, Sonoma County.
Sacramento	City Board of Health	5	do	1862	City trustees ..				
San Francisco	Board of Health of city and county of San Francisco.	5	City and county.	1870	Governor	I. S. Kallach, mayor, pres't James Simpson, M. D. H. Gibbons, jr., M. D. James Murphy, M. D. William A. Douglass, M. D. C. R. Bates, M. D., president Ed. Iverson, secretary. J. L. Holmes. P. J. Barber. A. A. Olesby. R. S. Young, M. D., pres't. Wm. Farnes, M. D., sec'y. E. T. Farmer. A. L. Cox, engineer. John M. White. F. W. Todd. E. A. Stockton. R. K. Reid. A. T. Hudson.	Monthly	Yes.	Board of Health, San Francisco, 124 Geary street.
Santa Barbara	Santa Barbara Board of Health.	5	City limits	1878	Common council ..		At call of president.	No.	Santa Barbara, Santa Barbara County.
Santa Rosa	Board of Health of Santa Rosa.	5	do	1878	City council		Monthly	No.	Santa Rosa.
Stockton	Board of Health of Stockton.	5	do	1873	Common council ..		Irregularly ..	No.	Stockton.
Vallejo	Board of Health of Vallejo.	5	do	1878	City trustees ..		Monthly	No.	Vallejo, Solano County.
Visalia-Tulare Co.	Tulare County Board of Health.	3	County limits ..		Supervisors	Dr. James Frost, president A. J. Browlie, secretary. Jos. Topley. John Callender. F. Devinger. L. M. Lovelace, chairman. A. E. Hall, secretary. M. Baker.	Monthly	No.	Visalia, Tulare Co.
Woodland	Woodland Board of Health.	5	do	1878	Town trustees ..	Dr. Anderson Strong, pres't Thomas Ross, M. D., sec'y. L. Welges, M. D. E. A. Grant. Donald Frazer.	do	No.	Woodland, Yolo County.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
COLORADO.									
Colorado	State Board of Health of Colorado.	7	The State.	1878	Governor and senate.	Charles Ambrosio, M. D., secretary.	Quarterly; special sessions when required.	Yes	Hartford.
CONNECTICUT.									
Connecticut	State Board of Health and Bureau of Vital Statistics.	7	The State.	1878	Governor and senate.	Dr. J. S. Butler, president; Dr. G. W. Chamberlain, secretary; Prof. W. H. Brewer, Prof. C. A. Lindsley, Hon. A. E. Burr, Hon. A. C. Lippett, Dr. R. Hubbard, H. B. Bigelow, mayor and president, C. A. Lindsley, health officer.	Quarterly; special sessions when required.	Yes	Hartford.
New Haven	New Haven Board of Health.	6	Town and city of New Haven, and navigable waters adjacent thereto.	1872	Mayor and aldermen.	H. B. Bigelow, mayor and president, C. A. Lindsley, health officer.	Monthly, winter; weekly, summer.	Yes.	New Haven.
Norwich	Board of Health of Norwich.	(*)	Town and city of Norwich.		By the people.	R. Young, president; P. B. Greene, secretary.	When necessary.	Yes.	Norwich.
Waterbury	Waterbury Board of Health.	4	Town limits.		Justices of peace.	Dr. Swift, Dr. Barber, Dr. Roberts, Dr. A. B. Simons.	When necessary.	No.	Waterbury.
DELAWARE.									
Delaware	State Board of Health of Delaware.	7	The State.	1878	Governor.	L. B. Bucke, M. D., pres't; W. Marshall, secretary, A. Whiteley, W. E. Wolfe, J. K. Kane, D. Hall, G. G. Chamberlain, Col. T. E. Singley, president Jim. Aikin, E. Bennett, W. J. Towers, A. Bickta, W. Byson, J. T. V. Blackson, M. D., Jno. E. Frack, G. W. Griffith, George Hepburn, H. H. Hawkins, James Kennedy, Richard Kelley, H. E. Lamm, J. P. Lamm, E. Moore, Jr., John M. Lowley, William McClintock, H. H. Mulken, A. Thatcher, W. Springer, M. D., port physician, E. B. Frazier, secretary.	Half yearly.	(*)	Present address, Wilmington.
Wilmington	Wilmington Board of Health.	20	One mile beyond city limits.	1886	City council.	Col. T. E. Singley, president Jim. Aikin, E. Bennett, W. J. Towers, A. Bickta, W. Byson, J. T. V. Blackson, M. D., Jno. E. Frack, G. W. Griffith, George Hepburn, H. H. Hawkins, James Kennedy, Richard Kelley, H. E. Lamm, J. P. Lamm, E. Moore, Jr., John M. Lowley, William McClintock, H. H. Mulken, A. Thatcher, W. Springer, M. D., port physician, E. B. Frazier, secretary.	First and third Monday of each month.	No.	Wilmington.
FLORIDA.									
Cedar Keys	Cedar Keys Board of Health.	8	Harbor.	(*)	Mayor and council.	R. V. H. Thomas, port physician.	Monthly.	Yes	Cedar Keys.
Green Cove Springs	Board of Health of Green Cove Springs.	3	Town limits.	1880	Town council.	W. D. Colman, M. D., chairman, F. Roberts, O. A. Buddington, J. E. Day, president, A. W. Knight, H. O. H. D. Bonnetman, sec'y, S. C. Codd, president, George A. McAdams, ex-officio.	Weekly.	(*)	Green Cove Springs, Clay County.
Jacksonville	Jacksonville Board of Health.	12	City to mouth of Saint John's River.	1879	Citizens.	O. A. Buddington, J. E. Day, president, A. W. Knight, H. O. H. D. Bonnetman, sec'y, S. C. Codd, president, George A. McAdams, ex-officio.	At call.	Yes	Jacksonville.
Pensacola	Pensacola Board of Health.	11	County of Escambia, Sta. Rosa Sound, and tributaries.	1880	People, State, and city ordinance.	S. C. Codd, president, George A. McAdams, ex-officio.	Weekly.	No	Pensacola.
Tampa	Tampa Board of Health.	6	Corporate limits.	1876	Qualified voters.	J. P. Wall, mayor and pres't, Josiah L. Mills, clerk.	Monthly.	No	Tampa, Hillsborough County.
GEORGIA.									
Atlanta	Board of Health of City of Atlanta.	5	Corporate limits.	1879	General council of city.	W. S. Armstrong, M. D., president, J. R. Rand, M. D., sec'y, W. C. Drake, M. D., F. F. Rice, A. Haas, Eugene Foster, M. D., president, I. T. Blowe, secretary, A. G. Holt, M. D., G. H. Winkler, M. D., E. H. May, mayor, M. J. Jones, M. D., J. F. Thompson, C. A. Platt, W. Dunn, S. Levy, W. T. Fox, R. A. Fleming, W. Mulliken, D. W. Johnston, secretary.	Bi weekly.	Yes	Atlanta.
Augusta	Board of Health of the City of Augusta.	12	City limits.	1877	City council.	W. S. Armstrong, M. D., president, J. R. Rand, M. D., sec'y, W. C. Drake, M. D., F. F. Rice, A. Haas, Eugene Foster, M. D., president, I. T. Blowe, secretary, A. G. Holt, M. D., G. H. Winkler, M. D., E. H. May, mayor, M. J. Jones, M. D., J. F. Thompson, C. A. Platt, W. Dunn, S. Levy, W. T. Fox, R. A. Fleming, W. Mulliken, D. W. Johnston, secretary.	Monthly.	(*)	Augusta.
Columbus	Board of Health, city of Columbus.	10*	Corporate limits.	1879	Mayor and council.	D. W. Johnston, secretary.	Irregularly.	No	Columbus.

* 33 Justices of peace; 3 selectmen.

† Reports to legislature at its biennial meeting.

* As advisable.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
GEORGIA—Cont'd.									
Darien	Darien Board of Health.	5	City of Darien and harbor of Doboy.	1875	Commissioners of county.	R. R. Harris, M. D., chairman. W. H. Colter, secretary. W. A. Way. E. W. Gulch. Henry Todd. J. Holm, M. D., quarantine officer.	Monthly	Yes.	Darien.
Savannah	Board of Sanitary Commissioners.	7	City .....	...	Mayor	J. T. Wheaton, mayor, chairman. W. Duncan, M. D., alderman. G. C. Freeman, alderman. J. R. Handel, alderman. J. R. Saussey. L. A. Falligant, M. D. J. T. McFarland, M. D., health officer and sec'y.	Every two weeks	* *	Savannah.
ILLINOIS.									
Illinois	State Board of Health	7	The State	1877	By law	H. Wardner, M. D., pres't. J. H. Ranch, M. D., sec'y. W. M. Chambers, M. D. J. M. Gregory, L. L. D. N. Bateman, L. L. D. R. Ludlow, M. D. A. L. Clark, M. D. M. M. Robbins, M. D., president and health officer.	Quarterly	Yes.	Springfield.
Aurora	Aurora Board of Health.	3	City limits	1861	Mayor and aldermen	F. O. White. M. O. Southworth. L. Keyser, president	Monthly	Yes.	Aurora, Kane Co.
Bushnell	Board of Health of city of Bushnell.	5	do	1879	Mayor	George Dougherty, sec'y.	At call	No.	Bushnell.
Chicago	City Health Department.	1	One mile beyond city limits.	1876	do	Oscar De Wolf, M. D., commissioner of health. B. L. McVicker, secretary. H. W. Waggoner, mayor, chairman. G. P. Hardy, clerk. K. Harwood. S. McBride, M. D. Cass Chenoweth, M. D.	Continuously	Yes.	Chicago.
Decatur	Board of Health of Decatur.	5	City limits	1880 (?)	do	F. Clendenia, M. D., pres't. W. W. Taylor, clerk. Dr. C. Piper, president	At call	No.	Decatur, Macon Co.
LaSalle	Board of Health of LaSalle.	4	City	1879	City council	Dr. J. W. Hancy, secretary. W. A. Walker, M. D., health officer.	When necessary	(?)	La Salle.
Moline	Board of Health, city of Moline.	5	City limits	1877	Mayor	Dr. J. W. Pettit	Monthly	No.	Moline.
Monmouth	City Board of Health	3	City limits	1858	Mayor and city council	Dr. Wallenker. Jas. Keating. C. L. Phelps.	At call	No.	Monmouth.
Ottawa	Ottawa Board of Health.	4	City	1870	City council	John Warner, mayor and president. Henry Forsyth, secretary. J. F. Niglas, M. D. T. Sully, health officer.	Monthly	No.	Ottawa.
Peoria	Peoria City Board of Health.	5	Five miles beyond city limits.	1845	do .....	...	Monthly in winter, bi-monthly from May to October.	(?)	Peoria.
Rockford	(?)	1	(?) .....	(?)	(?) .....	...	(?) .....	(?)	Rockford.
INDIANA.									
Evansville	Board of Health, City of Evansville.	5	City	1872	City council	G. R. Walker, president	Weekly	No.	Evansville.
Indianapolis	Board of Health of city of Indianapolis	3	City and two miles beyond city limits.	1873	City council and board of aldermen.	H. G. Jones, secretary, health officer. M. Muelhamen. M. J. Bray. S. M. Owen. H. Jameson, M. D., pres'id. W. Ward, M. D. W. E. Jeffries, M. D., secretary.	No regular meetings.	Yes.	Indianapolis, Marion County.
Jeffersonville	Board of Health	5	City limits	1879	City council	L. F. Warden, mayor, president. J. W. Thompson, secretary. W. W. Vineland, president. Frank O'Ferrall, treasurer. W. M. Orth, secretary.	Weekly	No.	Jeffersonville.
La Fayette	La Fayette Board of Health.	3	One mile beyond city limits.	1861	Common council	J. H. Helm, M. D.	Monthly	No.	La Fayette, Tippecanoe County.
Pera	Board of Health of Pera.	3	City limits	1865	City council	P. Ziemer, secretary. T. H. Davis, M. D., president C. A. Kerrey, M. D., secretary.	Irregularly	Yes.	Pera.
Richmond	Richmond Board of Health.	3	Two miles beyond city limits.	1855	do .....	...	As required	Yes.	Richmond, Wayne County.
IOWA.									
Iowa	State Board of Health	9	(?)	(?)	(?)	Dr. Wm. S. Robertson, president, Muscatine. Dr. Wm. B. Dickinson, vice-president, Des Moines. L. F. Andrews, secretary. Dr. P. W. Lewellen, Clinton. Dr. H. T. Clark, McGregor. Dr. J. M. Hull, Lake Mills. Dr. E. M. Reynolds, Centerville. Dr. G. F. Roberts, Waterloo. Hon. J. T. McJunkin, attorney-general.	(?)	(?)	(?)

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
IOWA—Continued.									
Burlington	Board of Health	10	City limits	1878	People	J. Zaiser, mayor, president. Adolph Borch, C. Ende, H. H. Scott, G. Kaul, J. R. Nairn, C. Neis, S. B. Hunt, J. N. Jones, M. D., J. W. Burdette, clerk.	As necessary	Yes	Burlington.
Clinton	City Board of Health	10	do	1880	By act of general assembly, March 26, 1880, constituting a board of health.	Richard Price, mayor, pres't F. R. Gilson, clerk, Edward Crooker, alderman, A. G. Ewing, alderman, T. J. Haller, alderman, J. P. Hayes, alderman, S. G. McGill, alderman, John Shepard, alderman, Robert Suddell, alderman.	First Monday, May and November, regular; special when called.	No	Clinton.
Keokuk	Board of Health	3	City	1860	City council	A. N. Carpenter, M. D., president.	Monthly	Yes	Keokuk.
Marshalltown	do	3	City limits	1879	Mayor and city council.	R. Howe Taylor, mayor and president. City council.	At call	(?)	Marshalltown.
KANSAS.									
Leavenworth	Leavenworth City Board of Health.	5	do	(?)	Mayor	Mayor, president. J. W. Jones, secretary.	do	No	Leavenworth.
KENTUCKY.									
Kentucky	State Board of Health of Kentucky.	7	The State	1878	Governor and Senate.	P. Thompson, M. D., pres't J. Shackelford, W. R. Latham, M. D., R. W. Dunlap, M. D., J. N. McCormick, M. D. J. W. Holland, M. D., (Vacant) secretary.	Semiannual	Yes	President's address, Henderson.
Louisville	Board of Health	12	City limits	1879	General council of city	J. G. Baxter, mayor R. T. Snowden, J. A. Weatherford, E. R. Montgomery, M. D., health officer, M. K. Allen, M. D., H. P. White, M. D., C. Sauter, M. D., J. A. Orterlong, M. D., A. B. Cook, M. D., C. J. Rademaker, M. D., W. W. Long, M. D., C. C. Sodehead, M. D.	Monthly	Yes	Louisville.
LOUISIANA.									
Louisiana	Board of Health of State of Louisiana.	9	The State, for quarantine, and New Orleans for sanitary purposes.	1855	4 by governor, 6 in city authorities.	J. Jones, M. D., president F. Locher, M. D., F. Fontenot, M. D., J. P. Davidson, M. D., E. F. Shepard, M. D., J. C. Beard, M. D., E. Hernandez, R. Braxton, J. N. Marks, S. S. Bennett, M. D., sec'y.	June to November, weekly, November to June, monthly.	Yes	New Orleans.
Shreveport	Shreveport Board of Health.	5	Corporation limits.	1871	Mayor and governor	R. A. Gray, president W. W. Ashton, health officer and secretary.	Bi-monthly	No	Shreveport.
MAINE.									
Augusta	Board of Health	3	City	(?) (?)		P. O. Vickery, mayor D. P. Bolster, M. D., city physician	At call	(?)	Augusta.
Belfast	Board of Health of Belfast.	3	City limits	(?)	City council	J. M. Fletcher, M. D. J. E. Johnson, M. P. Woodcock, F. Howard Vase, M. D., city physician	As required	No	Belfast.
Calais	Calais Board of Health.	3	Corporation limits.	(?)	Mayor and aldermen	Alfred Fowles, P. M. Pringle			
Portland	Board of Health	3	Special committee of 3 aldermen.		By State	Board of mayor and aldermen acting as board of health.	On special calls	No	Portland
MARYLAND.									
Maryland	State Board of Health	5	State	(?) (?)		E. Lloyd Howard, M. D., president C. W. Chancellor, M. D., secretary J. E. Ward, M. D., Charles M. Ellis, M. D., George E. Porter, M. D., J. A. Stewart, M. D., commissioner of health J. F. McShane, M. D., assistant commissioner of health.		Yes	Baltimore.
Baltimore	Health Department of Baltimore.	2	Corporation limits and partial authority two miles beyond.	1788	Mayor and approved by council		Daily	Yes	Baltimore.

*March each year.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
MASSACHUSETTS.									
<i>Massachusetts</i>	Board of Health, Lunacy, and Charity.	9	The State.....	1869	Governor and council.	Moses Kimball..... N. Allen, M. D. H. I. Bowditch, M. D. C. F. Donnelly. E. Hitchcock, M. D. A. Wood, M. D. R. T. Davis, M. D. J. C. Hoadley, M. D. E. Parmenter, M. D. C. F. Folsom, M. D., sec'y.	Monthly.....	Yes.	Boston.
Bridge-water.....	Board of Health of Bridgewater.	3	Township.....	1878	People.....	L. S. Hopkins, M. D., chairman. S. H. Worcester, M. D., secretary. S. Leonard. W. W. Cross. H. A. Ford. H. H. Packard. H. E. Lincoln. W. S. Greene.	As required.....	Yes.	Bridgewater.
Brockton.....	Board of Health.....	5	Town limits.....	(?)	Selectmen of town.....	Daniel H. Thurston, president. G. F. Piper. H. P. Walcott, M. D. J. McIniffe, clerk. J. Crowell, M. D., chairman.	Twice a week.....	Yes.	Brockton.
Cambridge.....	Board of Health of Cambridge.	3	Town limits.....	1878	Mayor and confirmed by aldermen.	G. A. Warren, M. D., chairman. L. L. Samuel, M. D., sec'y. Abdin Lear, president. E. S. Yates, M. D., sec'y. E. H. Dickie. S. M. Davis, clerk. W. R. Shaw, chairman.	Second and fourth Friday of every month.	Yes.	Cambridgeport.
Haverhill.....	Board of Health of city of Haverhill.	3	(?)	1880	Mayor and aldermen.....	M. Hoar. E. W. Truworth, M. D. M. E. Moore, M. D., chairman.	Weekly.....	No.	Haverhill.
Hopkinton.....	Hopkinton Board of Health.	3	Town limits.....	1877	The town.....	W. T. Litchman, clerk. J. Gray. W. E. Tull.	Irregular.....	No.	Hopkinton.
Lawrence.....	Board of Health of Lawrence.	3	City limits.....	1878	Nomination of mayor and confirmation by board of aldermen.	J. H. Mackie, M. D., chairman and health officer. J. O. Thompson. (Vacancy April, 1884.) G. W. Snow, M. D., chairman. H. M. Cross. E. P. Dodge. G. H. Stevens, clerk. A. Lord, chairman. W. P. Sturtevant, secretary. C. A. Kimball, C. E., chairman. J. T. Conch, M. D. J. A. Cummings. G. D. Vincent, clerk.	On call of chairman.	Yes.	Lawrence.
Lowell.....	Lowell Board of Health.	3	do.....	1878	Mayor and aldermen.....	Mayor L. J. Powers, ex officio chairman.	As required.....	Yes.	Lowell.
Marblehead.....	Board of Health of Marblehead.	5	Town limits.....	1880	Qualified voters.....	G. W. Tapley, alderman. D. Clark, city physician, ex officio member and clerk. T. Harrington, chairman. E. Woodward, M. D. H. Griffin, clerk.	Twice a month.....	No.	Marblehead.
Nantucket.....	Nantucket Board of Health.	3	County of Nantucket.	1855	Town meeting.....		When occasion demands.	No.	Nantucket.
New Bedford.....	Board of Health of New Bedford.	3	City and harbor of New Bedford.	1879	Nomination by mayor and confirmed by aldermen.		Daily.....	Yes.	New Bedford.
Newburyport.....	Board of Health of Newburyport.	5	1 mile beyond corporate limits.	1878	Mayor and board of aldermen.		Monthly.....	Yes.	Newburyport.
Plymouth.....	Board of Health of Plymouth.	5	Town limits.....	1878	By the town.....		Occasionally.....	Yes.	Plymouth.
Somerville.....	Board of Health of Somerville.	3	City limits.....	1878	Appointed by mayor and confirmed by aldermen.		Weekly.....	Yes.	Somerville.
Springfield.....	Board of Health of Springfield.	3	do.....	1876	do.....		When occasion requires.	Yes.	Springfield.
Worcester.....	Board of Health of Worcester.	3	do.....	1878	Mayor and aldermen.....		At call.....	Yes.	Worcester.
MICHIGAN.									
<i>Michigan</i>	State Board of Health	7	The State.....	1873	Governor and senate.....	R. C. Kodzie, M. D., pres't. H. O. Hitchcock, M. D. Lewey Parker. D. C. Jarokes, D. D. H. F. Lyster, M. D. J. H. Kellough, M. D. H. B. Baker, M. D., secretary and superintendent vital statistics. W. F. Breaky, chairman. C. A. Green, secretary. A. Allen. C. C. Nichols, mayor. Morris H. Neale, recorder. W. K. Laughborough. P. B. Barnes. H. M. Strong. S. S. French, health officer. E. W. French, president. E. O. Randall. G. W. Lewis. W. S. Kimball. E. Blanchard. A. B. Van der Mark. T. C. Adam, M. D., health officer.	Quarterly.....	Yes.	Lansing.
Ann Arbor.....	Board of Health of Ann Arbor.	3	City limits.....	1880	Common council.....	M. B. Carpenter, chairman. J. H. Welling, M. D., city physician.	Weekly.....	Yes.	Ann Arbor, Wash tenaw County.
Battle Creek.....	Board of Health of Battle Creek.	6	do.....	1880	Mayor.....		(?)	No.	Battle Creek, Cal houn County.
Clinton.....	Village Board of Health.	6	Corporation limits.	1879	People.....		Monthly.....	No.	Clinton.
Lansing.....	Board of Health, city of Lansing.	7	do.....	1879	Common council.....		Twice a month.....	No.	Lansing.

*Annually.

†With other city reports.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
MICHIGAN—Cont'd.									
Monroe City	Board of Health of Monroe City.	6	City limits	1873	People	H. Shaw Noble, mayor, chairman. A. J. Mascara, M. D., city physician. J. Renner. J. S. Noble. B. Durell. F. X. Solaon. J. Davis, clerk. F. M. Gay, mayor and pres. J. H. Richardson, secretary. Irwine Simpson, M. D. G. W. Dougan, add. man. E. R. Le Ray, add. man. Fred Smith, add. man. S. W. Smith, M. D., pres. William Bottomly. S. H. Robinson.	Monthly	No	Monroe City.
Niles	Niles Board of Health	5	do	1867	Common council	J. H. Richardson, secretary. Irwine Simpson, M. D. G. W. Dougan, add. man. E. R. Le Ray, add. man. Fred Smith, add. man. S. W. Smith, M. D., pres. William Bottomly. S. H. Robinson.	When necessary	No	Niles.
Port Huron	Board of Health	3	do	do	do	A. C. Herzog, M. D., pres. dent and health officer. J. Smith. F. L. Eaton. E. R. Florentine, M. D. W. W. Clark. C. Brunner, secretary.	Quarterly	No	Port Huron
Saginaw	Board of Health, city of Saginaw.	5	City and river port.	1872	City council	A. C. Herzog, M. D., pres. dent and health officer. J. Smith. F. L. Eaton. E. R. Florentine, M. D. W. W. Clark. C. Brunner, secretary.	Monthly	No.	Saginaw
MINNESOTA.									
Minnesota	State Board of Health	7	The State	1872	Government	D. W. Hand, M. D., pres. C. H. Scott, M. D., sec. V. Smith. E. Staples. W. H. Leonard. E. J. Davis. C. Gronwald. B. Matlock, president.	Quarterly	Yes	Address of secre- tary: Red Wing.
Saint Paul	Board of Health of Saint Paul.	6	City and county water courses.	1866	City council	B. Matlock, president.	Monthly	Yes	Saint Paul
MISSISSIPPI.									
Mississippi	State Board of Health	15	State	1877	By governor at recom- mendation of State Medical Association	S. Y. D. Hill, M. D., pres. W. Johnson, M. D., sec. R. Kells, M. D. C. A. Rice, M. D. F. W. Dancy, M. D. D. L. Phares, M. D. J. W. Taylor, M. D. T. D. Isom, M. D. J. Wright, M. D. B. F. Kitterell, M. D. P. J. McCormick, M. D. R. G. Wharton, M. D. G. E. Redwood, M. D. E. P. Sale, M. D. J. W. Bennett, M. D.	Annually	Yes	Address of secre- tary: Jackson.
Adams County				1880	Governor	Dr. J. S. Sharp, health officer			Natchez.
Alcorn County				1880	do	Dr. W. B. Sandord, health officer.			County
Anite County				1880	do				
Attala County				1880	do	Dr. J. M. Lewis, health officer.			Kosciusko
Benlon County				1880	do	Dr. Jackson, health officer			Madison City
Bolivar County				1880	do	Dr. J. W. Dulaney, health officer.			Keosauke
Calhoun County				1880	do	Dr. C. W. Vasser, health officer			Carrollton
Carroll County				1880	do	Dr. J. S. Cam, health officer			Osborne
Chickasaw County				1880	do	Dr. J. W. George, health officer			Choctaw
Choctaw County				1880	do				
Chalbourne County				1880	do	Dr. D. Johns, health officer			Port Jackson
Clarke County				1880	do	Dr. A. V. Woodly, health officer			Enterprise
Clay County				1880	do	Dr. J. F. McEachon, health officer			West Point
Coahoma County				1880	do				
Copiah County				1880	do	Dr. George W. Patten, health officer			Hickman
Covington County				1880	do				
De Soto County				1880	do	Dr. J. P. H. W. through, health officer			Hernando
Franklin County				1880	do				
Greene County				1880	do				
Grenada County				1880	do	Dr. G. W. Trimble, health officer			Grenada
Hancock County				1880	do				
Harrison County				1880	do	Dr. George K. Harrington, health officer			Leitch
Hinds County				1880	do	Dr. George C. Philipp, health officer			Leitch
Holmes County				1880	do	Dr. D. L. Smith, health officer			Marion
Issaquena County				1880	do				
Itawamba County				1880	do				
Jackson County				1880	do	F. L. Griffin, health officer. H. J. Bous, health officer. H. Kirby, health officer. J. K. McLeod, health officer. M. M. Lyons, health officer.			
Jasper County				1880	do				
Jefferson County				1880	do	Dr. W. E. Gouge, health officer			Lynch

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
Mississippi—Cont'd									
Jones County				1880	Governor	Dr. L. McLendon, health officer.			Sucarnoochee.
Kenner County				1880	do	Dr. J. T. Chandler, health officer.			Oxford.
La Fayette County				1880	do	Dr. A. H. Smith, health officer.			Meridian.
Lauderdale County				1880	do	Dr. W. R. Block, health officer.			Carthage.
Lawrence County				1880	do	Dr. R. C. Cunningham, health officer.			Verona.
Leake County				1880	do	Dr. E. J. Bowen, health officer.			Brookhaven.
Lee County				1880	do	Dr. B. A. Vaughn, health officer.			Columbus.
Lincoln County				1880	do	Dr. M. G. Davis, health officer.			Greenwood.
Lowndes County				1880	do	Dr. A. T. Semmes, health officer.			Canton.
LeFlore County				1880	do	Dr. A. M. West, health officer.			Holly Springs.
Madison County				1880	do	Dr. J. M. Greene, health officer.			Aberdeen.
Marion County				1880	do	Dr. B. F. Ward, health officer.			Winona.
Marshall County				1880	do	Dr. J. C. Hall, health officer.			McKinneyville.
Mourne County				1880	do	Dr. A. H. Bays, health officer.			Walthall.
Montgomery Co.				1880	do	Dr. W. H. Baird, health officer.			Indian Bayou.
Neshoba County				1880	do	Dr. A. A. Wheat, health officer.			Harrison Station.
Newton County				1880	do	Dr. W. D. Carter, health officer.			Ripley.
Noxubee County				1880	do	Dr. Carroll Kendrick, health officer.			Corinth.
Oktibbeha County				1880	do	Dr. J. M. Phillips, health officer.			Austin.
Paula County				1880	do	Dr. J. R. Steton, Health Officer.			Senatobia.
Perry County				1880	do	Dr. W. T. Balfour, Health Officer.			Vicksburg.
Pike County				1880	do	Dr. R. S. Toombs, Health Officer.			Greenville.
Pontotoc County				1880	do	Dr. L. W. Magruder, Health Officer.			Woodville.
Prentiss County				1880	do	Dr. H. A. Gant, Health Officer.			Water Valley.
Quitman County				1880	do	Dr. E. L. Dunn, Health Officer.			
Rankin County				1880	do				
Scott County				1880	do				
Shelby County				1880	do				
Stanton County				1880	do				
Smith County				1880	do				
Sumner County				1880	do				
Sunflower County				1880	do				
Tallahatchie Co.				1880	do				
Tippah County				1880	do				
Tishomingo County				1880	do				
Tunica County				1880	do				
Tate County				1880	do				
Union County				1880	do				
Warren County				1880	do				
Washington County				1880	do				
Wayne County				1880	do				
Wilkinson County				1880	do				
Winston County				1880	do				
Yalobusha County				1880	do				
Yazoo County				1880	do				
MISSOURI.									
Kansas City		5	One mile beyond city limits.	1879 (?)		C. A. Chase, President E. J. Jenkins, M. D., City Physician. J. Wilson, Assistant Sanitary Superintendent.	Weekly	No.	Kansas City.
Louisiana	Louisiana Board of Health	6	City limits	1870	City council	J. C. Rose, Mayor, Pres't C. Keith, M. D., Health Officer, Secretary.	Quarterly	No.	Louisiana.
Sedalia	Board of Health, City of Sedalia.	3	City limits	1879	Mayor and aldermen	G. L. Faulhaber, Mayor, President. J. W. Trader, M. D. W. P. King, M. D.	At call	No.	Sedalia.
Saint Louis	Health Department, City of Saint Louis	6	City limits	1879	Mayor, and council confirms.	Henry Overstolz, Mayor, President. C. W. Francis, Health Commissioner. J. Spriggehalter, M. D. W. B. Conery, M. D. J. B. Lightner Leslie A. Moffett	Twice a week	No.	Saint Louis.
NEBRASKA									
Omaha	Omaha Board of Health	4	City limits	1872	Citizens	C. S. Chase, Mayor, President. P. S. Leisinger, M. D., Secretary.	Monthly	Yes.	Omaha.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
NEW HAMPSHIRE.									
Concord	Board of Health of Concord.	3	City limits	1853	City council	J. Connell G. Cook, M. D. A. G. Emery, M. D.	As necessary	Yes	Concord.
Nashua	Board of Health of Nashua.	3	City limits	(?)	City council	U. O. Clough G. P. Greeley S. P. Sanderson.	At call	Yes	Nashua.
NEW JERSEY.									
New Jersey	State Board of Health	9	The State			T. R. Varick, president. Dr. E. M. Hunt, cor. sec. E. A. Osborn, clerk. Laban Dennis Cyrus E. Brackett, Ph. D. James M. Kidge. A. R. Leeds, Ph. D. Hon. Henry C. Kelsey, secretary of state, member <i>ex-officio</i> . Hon. John P. Stockton, attorney-general, member <i>ex-officio</i> .	Annually	Yes	Secretary's address, Mt. Union.
Hackensack	Board of Health of New Barbadoes township.	5	Township bound-aries.	1880	By law	H. A. Hopper, M. D., pres't H. Zabriske, secretary.	Monthly	Yes	Hackensack.
Jersey City	Board of Health and vital statistics of the county of Hudson.	3	County limits	1874	Board of chosen free-holders of county.	L. W. Elder, M. D., pres't J. J. Youlin, M. D., com'r. C. B. Converse, M. D., commissioner.	Twice a month	Yes	Jersey City.
Newark	Board of Health, city of Newark.	5	City limits	1858	Mayor and city council	J. A. Miller, health phys'n. Alfred Palmer, president J. E. Oris Lewis S. Parker J. W. Kelly. Theop. T. Price, secretary.	Monthly	Yes	Newark.
Tuckerton	Board of Health of township of Little Egg Harbor.	5	Township bound-aries.	(?)	By law		At call	No	Tuckerton.
NEW YORK.									
New York									
Auburn	Commissioners of Health.	4	City limits	1880	City council	S. T. Tuttle, chairman. R. Bell, secretary. J. Gerin, M. D., health officer.	Irregularly	No	Auburn.
Binghamton	Board of Health	5	do	1867	Board of aldermen	H. H. Lester, mayor J. H. Chittenden, M. D., health officer.	At call	No	Binghamton.
Brooklyn	Brooklyn Board of Health.	3	City of Brooklyn	1873	Mayor and common council.	A. Otis, M. D., pres't James Jordan. R. Black. H. A. La Fetra, secretary. W. E. Berle J. C. Sheridan. J. S. Young. A. H. Briggs, health phys'n W. E. Thom, mayor C. R. Villbrich, M. D., health officer.	Weekly	Yes	Brooklyn.
Buffalo	Board of Health	3	(?)	1870	City charter		Once a week	No	Buffalo.
Cohoes	Board of Health of City of Cohoes.	4	City limits	1880	City council	H. C. Brooks, mayor pres't F. Jackle, M. D., city physi-cian. A. L. Hibbert	Monthly	Yes	Cohoes.
Dunkirk	Board of Health of city and town.	3	City and town	1880	do		do		Dunkirk.
Elmira	Board of Health, city of Elmira.	15	Corporate limits.	(?)	Common council	The common council H. H. Pondy, M. D., health officer.	No stated time	No	Elmira
Geneva	Geneva Board of Health.	7	do	1880	Trustees of village	S. H. Parker, president D. P. Nelson, secretary. N. B. Covert, health officer J. Sealorby. William Chipp. Ed Snyder. W. H. Dox, sr J. H. Spotten E. R. Stiles C. J. Lansing E. R. Smith	Weekly	No	Geneva.
Lansingburgh	Town Board of Health.	5	Town boundaries	1853	People	M. M. Lamb, health officer J. E. Bond, chairman C. Spruce, secretary. L. King — McCoy. — Lathrop — Campbell H. C. Hall, M. D., health officer.	No stated time	No	Lansingburgh.
Lockport	City of Lockport Board of Health.	7	City limits	1861	Mayor	J. L. Head, M. D., pres't J. Deane, M. D., health officer C. J. Chandler, Ph. D., pres-ident F. C. Janeway, M. D. S. R. French W. M. Smith, M. D., health officer.	Monthly	Yes	Lockport.
Newburgh	Board of Health, city of Newburgh.	4	City	1866	Mayor and city council		do	Yes	Newburgh.
New York	Board of Health and Health Department of city of New York.	4	City and county of New York	1873	Mayor and aldermen health officer appointed by governor		Twice a week	Yes	New York City.
Plattsburgh	Board of Health	7	Village limits.	1859	People	C. L. Smith, president J. Williams J. Dorgan. M. Miller W. J. McCutney G. W. Bonick. T. Bruce. D. S. Kellogg, M. D., health officer.	Monthly	No	Plattsburgh.

*Annually and monthly.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
NEW YORK—Cont'd.									
Poughkeepsie.	Board of Health, city of Poughkeepsie.	8	City.	1879	City council.	J. H. Budd, president. J. R. Couper, M. D., health officer. H. Van Dyne, secretary. W. H. Pollard, president. Ira Ahny. J. G. Wooster. W. Van Rensselaer. O. B. Latham. H. T. Pupity, health officer. Francis Hendricks, president. J. G. Vann. L. S. Merrick. C. Schlosser. L. C. Dornin, secretary.	Twice a month.	Yes	Poughkeepsie.
Seneca Falls.	Seneca Falls Board of Health.	6	Corporation of Seneca Falls.	1878	President of board of trustees of village.	N. C. Husted, M. D., president. N. H. Freeland, M. D., inspector. W. Perry. J. Vanderbilt, secretary. Isaiah Washburne. Edward Murphy, mayor. M. H. Barton, M. D., health officer.	On call of health officer.	Yes	Seneca Falls.
Syracuse.	Board of Health of city of Syracuse.	5	The city.	1848	The mayor, ex-mayor, and members of common council, and city clerk.	J. T. Spriggs, mayor and president. E. P. Hodges. J. Ross. O. H. Douglass. L. Bailey. J. Batchelder. T. Davis. J. Carrol. J. G. Hunt, M. D., health officer.	At call of president or once a month.	(¹)	Syracuse.
Tarrytown.	Tarrytown Board of Health.	5	The village.	1879	Trustees of village.	N. C. Husted, M. D., president. N. H. Freeland, M. D., inspector. W. Perry. J. Vanderbilt, secretary. Isaiah Washburne. Edward Murphy, mayor. M. H. Barton, M. D., health officer.	Monthly.	No.	Tarrytown.
Troy.	Board of Health, city of Troy.	6	City limits.	1847	Mayor.	J. T. Spriggs, mayor and president. E. P. Hodges. J. Ross. O. H. Douglass. L. Bailey. J. Batchelder. T. Davis. J. Carrol. J. G. Hunt, M. D., health officer.	Bi-monthly.	No.	Troy.
Utica.	Department of the Board of Health of the City of Utica, N. Y.	7	City limits.	1817	Common council.	N. P. Otis, president. V. Brown, health officer.	About once in two weeks, or call of health officer.	Yes	Utica.
Yonkers.	Board of Health of Yonkers.	6	(¹)	1875	People.	N. P. Otis, president. V. Brown, health officer.	Monthly.	Yes.	Yonkers.
NORTH CAROLINA.									
North Carolina.	State Board of Health.	9	The State.	1879	State Medical Society.	S. S. Satchwell, M. D., president. T. F. Waul, M. D., secretary. M. W. Witthead, M. D. C. T. O'Brien, M. D. K. L. Payne, M. D. G. A. Fode, M. D. R. G. Woodfin, M. D. A. R. Ledoux, Ph.D. W. Cain, C. E. R. V. Robinson, M. D., president. D. A. McKee, M. D., vice-president. O. P. Robinson, secretary and superintendent of health.	Yearly.	Yes	Wilmington.
Fayetteville.	Board of Health of Cumberland County.	12	Cumberland County.	1879	State Medical Society.	R. R. Herrick, mayor. Dr. H. W. Kitchen. Dr. J. F. Armstrong. Dr. W. J. Scott. Dr. A. G. Hart. Dr. G. C. Ashmun. John D. Creche. F. M. Hoier, mayor and president. H. S. Jewett, M. D. R. Craig. R. Brandreth. B. F. Wait. C. Parker. B. B. Childs, health officer. T. S. Neal, secretary. P. A. Sams, mayor. J. Sams, M. D., health officer. E. Westlake, secretary. J. W. Lewis, president. A. Munshover, secretary and health officer.	Quarterly.	Yes	Fayetteville.
OHIO.									
Cleveland.	Board of Health of Cleveland.	7	Two and one-half miles beyond city limits.	1878	City Council.	H. S. Jewett, M. D. R. Craig. R. Brandreth. B. F. Wait. C. Parker. B. B. Childs, health officer. T. S. Neal, secretary. P. A. Sams, mayor. J. Sams, M. D., health officer. E. Westlake, secretary. J. W. Lewis, president. A. Munshover, secretary and health officer.	Twice a month.	No.	City Hall, Cleveland.
Dayton.	Board of Health, city of Dayton.	6	Corporation limits.	1867	City council.	F. M. Hoier, mayor and president. H. S. Jewett, M. D. R. Craig. R. Brandreth. B. F. Wait. C. Parker. B. B. Childs, health officer. T. S. Neal, secretary. P. A. Sams, mayor. J. Sams, M. D., health officer. E. Westlake, secretary. J. W. Lewis, president. A. Munshover, secretary and health officer.	Once in two weeks.	Yes	Dayton.
Gallipolis.	Gallipolis Board of Health.	6	City limits.	1867	Mayor and council.	H. S. Jewett, M. D. R. Craig. R. Brandreth. B. F. Wait. C. Parker. B. B. Childs, health officer. T. S. Neal, secretary. P. A. Sams, mayor. J. Sams, M. D., health officer. E. Westlake, secretary. J. W. Lewis, president. A. Munshover, secretary and health officer.	Every two weeks.	No.	Gallipolis.
London.	London Board of Health.	8	Corporate limits.	1878	City council.	H. S. Jewett, M. D. R. Craig. R. Brandreth. B. F. Wait. C. Parker. B. B. Childs, health officer. T. S. Neal, secretary. P. A. Sams, mayor. J. Sams, M. D., health officer. E. Westlake, secretary. J. W. Lewis, president. A. Munshover, secretary and health officer.	Monthly.	No.	London.
Painesville.	Board of Health of the incorporated village of Salem.	(¹)	(¹)	(¹)	Mayor and council.	Health officer.	(¹)	(¹)	Painesville.
Salem.	Board of Health of the incorporated village of Salem.	7	Corporate limits.	1879	City council.	J. W. Lewis, president. A. Munshover, secretary and health officer. C. C. Snyder, clerk. Isaac Crumrine, health officer. James Reed. Dr. S. C. Yingling. Dr. J. L. Friestone. Dr. J. M. Hole. Dr. C. L. Fawcett.	Monthly.	No.	Salem.

* Synopsis once a year.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
Ottio—Continued.									
Toledo.....	Toledo Board of Health.	7	City limits	1865	City council	Hon. J. Romeis, mayor and president. A. W. Fisher, M. D., secretary and health officer. W. H. Bellum. Jacob Clark, M. D. W. C. Chapman, M. D. M. Newhansel, M. D. S. H. Bergen, M. D. J. Squires, M. D.	Once a month and special sessions.	Yes.	Toledo.
OREGON.									
Astoria.....						Aug. C. Kinney, M. D., State health officer.			Astoria.
Portland.....	Portland Board of Health.	3	City limits	1873	Electors	D. P. Thompson, mayor. Dr. T. L. Nicklin. J. H. Loppens.	Once a month.	No.	Portland.
PENNSYLVANIA.									
Allegheny City.....	Commission on Health.	13		1873	Councils	B. Waddington, chairman. J. Harlan, health officer.	Monthly	Yes.	Allegheny City.
Carlisle.....	Carlisle Board of Health.	5	Borough	1872	Town council	S. P. Zeigler, M. D., president. J. B. Lands, secretary. J. S. Bender, M. D., health officer. J. W. Lowman. J. W. Smiley.	Monthly	Yes.	Carlisle.
Erie.....	Health Commission	9	City councils	1831	Three of select council, six of common council.	Sundentry	Every two weeks	Yes.	Erie.
						Hardwick. Brown. Geib. Sherwood. Bass. Eberly. Franz. E. W. Geimer, M. D., health officer.			
Lockhaven.....	Board of Health ..	3	City limits	1870	City council	J. C. Richards, M. D., president. J. Robb, secretary. O. Brown.	At call	No.	Lockhaven.
Newcastle.....	Newcastle Board of Health.	4	City limits	1875	Councils	R. P. Newlin. S. Bowman. J. S. Stevenson. Ed. McMillan, sr. John Marshall, health officer. Eli Morrison, clerk. B. T. Peckles, M. D.	Monthly	Yes.	Newcastle, Lawrence County.
Philadelphia.....	Board of Health of city and port of Philadelphia.	12	City limits from Bristol to Chester, on Delaware River, Luzerne to Delaware County.	1818	Three by city councils, nine by judges of common pleas.	W. H. Ford, M. D., president. A. A. Hirst, secretary.	Daily, June to October, weekly, October to June.	Yes.	Philadelphia.
Pittsburgh.....	Board of Health of city of Pittsburgh.	9	City limits	1851	City council	J. L. Slagle, president. W. J. Aslake, M. D., secretary. A. Wilkins, M. D. J. M. Brush. J. P. Graham, M. D. E. W. McClain. J. D. Thomas, M. D. N. S. Brokaw. James McCann, M. D. C. Gray, health officer. D. M. Weedman, M. D., president. E. A. Howell, secretary.	Twice a month.	Yes.	Pittsburgh.
Reading.....	Board of Health of Reading.	7	City limits and 1 mile beyond.	1872	Select and common councils	T. P. Powderly, mayor and chairman. Dr. W. E. Allen. Dr. J. T. Everhart. F. C. Platt. J. J. Hawley. Dr. G. B. Boyd, health officer, elected by board. G. B. Foster, secretary.	Weekly	Yes.	Reading.
Scranton.....	Board of Health ..	5	City limits	1878	City councils		Monthly	Yes.	Scranton.
Titusville.....	Board of Health of city of Titusville.	5	City limits	1878	Select and common councils	A. N. Peirce, mayor and president. F. S. Hobart, secretary.	At call	Yes.	Titusville.
RHODE ISLAND.									
Rhode Island.....	State Board of Health	7	State	1878	General assembly	David King, chairman. D. Smith. O. S. Wiggins. G. W. Jenckes. A. G. Sprague. W. F. C. Wardwell. F. W. Fisher, secretary.	Quarterly	Yes.	Providence.
SOUTH CAROLINA.									
South Carolina.....	State Board of Health					Dr. Wm. Robertson, president. Dr. Fraser, secretary.			

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bonds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
SOUTH CAROLINA—Continued.									
Beaufort	Board of Health	5	Town limits	1871	By the intendant of town of Beaufort.	H. M. Stuart, M. D., chairman. G. Waterhouse. W. H. Lockwood. R. M. Rutledge. F. W. Scheppe. R. E. Morris, chairman. R. Leiby, M. D., secretary and registrar.	When necessary.	No.	Beaufort.
Charleston	Board of Health city of Charleston.	11	.....	1889	City council .....	.....	Every two weeks	Yes	Charleston.
Port Royal	Board of Health of Port Royal.	4	Corporate limits	1876	Town council	J. A. Johnson, M. D., chairman. G. T. Harrison, secretary.	Monthly	No.	Port Royal.
TENNESSEE.									
Tennessee	State Board of Health	7	The State	1877	Governor	J. D. Plunket, M. D., president. E. M. Wight, M. D. T. A. Atchison. R. B. Maury. J. M. Safford. J. Johnson. E. W. Cole. W. M. Clark, secretary.	Quarterly	Yes	Nashville.
Brownsville	Board of Health of Brownsville and Haywood County.	4	County	1879	County court	J. G. Haywood, president. W. W. Taylor, M. D., secretary.	Irregularly	No.	Brownsville.
Clarksville	Board of Health of Clarksville.	5	City limits	1879	Mayor and aldermen ..	R. N. Herring, M. D., president. J. W. Faxon, secretary.	Monthly	No.	Clarksville.
Franklin	Franklin Board of Health.	5	Corporation of city.	1879	Board of aldermen	D. B. Cuffe, M. D., president. F. Marshall, secretary. J. P. Hamner, M. D. S. J. Home, M. D. R. E. Haynes.	As required	No.	Franklin.
Huntingdon	Board of Health of town of Huntingdon.	3	Corporate limits and 1 mile beyond.	1879	Mayor and aldermen ..	A. W. Hawkins, M. D., president. G. W. Humble, secretary. W. M. Wight, M. D.	At call	No.	Huntingdon.
Memphis	Board of Health of taxing district of Shelby County.	5	One mile beyond corporate limits.	1879	Legislative council	G. R. Thornton, M. D., president. D. T. Jackson, health officer. P. R. Athey, chief of police. R. E. King, M. D., secretary. D. F. Porter, member ex officio.	Daily	Yes	Memphis.
Murfreesboro'	Murfreesboro' Board of Health.	6	Corporate limits	1879	Mayor and aldermen ..	J. B. Murfree, M. D., president. C. R. Huggins, secretary. H. B. Clayton, M. D., health officer.	Quarterly	No.	Murfreesboro'.
Newmarket	Board of Health of Newmarket.	8	Corporate limits	1879	State board	J. W. Thornburg, M. D., president. H. P. Cotte, M. D., sec'y. T. T. Porter, M. D., president.	Irregularly	No.	Newmarket.
Paris	Paris Board of Health	5	(¹)	1879	Citizens	C. C. Fisher, M. D., president. G. W. Moody, M. D., secretary. R. T. Evans, M. D. Oliver Curran. B. R. Whitthorne, mayor and health officer.	(¹)	(¹)	Paris.
Shelbyville	Board of Health of Shelbyville.	5	One mile beyond city limits.	1879	Board of aldermen and mayor.	.....	Second Tuesday of each month.	No.	Shelbyville.
TEXAS.									
Texas	State Board of Health	.....	.....	.....	.....	J. H. Pope, M. D., president. R. Rutherford, M. D., health officer.	.....	.....	.....
Austin	Austin Board of Health.	5	City limits	1877	Mayor and board of aldermen.	R. H. L. Bibb, M. D., president. Thomas Carson, mayor. Wm. A. Walls, alderman. William Scanlan, alderman. Adolph Bollack, alderman.	As required	No.	Austin.
Brownsville	No name	4	Corporation limits.	(¹)	Mayor and aldermen	J. L. Carter, M. D., president and health officer. J. J. Elliott, secretary.	Once a week	No.	Brownsville, Cameron County.
Dallas	Board of Health of Dallas City.	8	(¹)	1880	City council	H. P. Brown, M. D., president. G. R. Beard, secretary. O. R. Meager, chief of police.	(¹)	(¹)	Dallas.
Jefferson	Board of Health of Jefferson.	5	City limits railroads, and Cypress Bayou.	1878	Citizens and mayor ..	.....	Weekly	Yes	Jefferson, Marion County.
San Antonio	(¹)	(¹)	(¹)	(¹)	(¹)	.....	(¹)	(¹)	San Antonio.
VERMONT.									
Burlington	Health Officer	1	City limits	1866	City council	H. H. Atwater, M. D., health officer.	As necessary.	Yes	Burlington.
VIRGINIA.									
Alexandria	Board of Health of Alexandria.	11	City limits	1899	City council	E. A. Stabler, M. D., health officer. J. H. D. Smoot, secretary. T. L. Walker, president. R. S. Payne. F. Spencer.	At call	No.	Alexandria.
Lynchburg	Board of Health	3	Corporation limits and partial authority on railroad and canal.	1872	.....do .....	.....	Monthly	Yes	Lynchburg.

STATE AND MUNICIPAL BOARDS OF HEALTH IN THE UNITED STATES—Continued.

State, town, or city.	Title of board.	No. of members.	Bounds in which its authority is exercised.	When organized.	By whom is board selected?	Names of officers and members.	How often does board meet?	Does board publish a report?	Post-office address.
VIRGINIA—Cont'd.									
Norfolk.....	Board of Health.....	5	City limits.....	(?)	do.....	S. S. Keeling, M. D., president. N. T. Sutton, M. D., secretary and treasurer. B. P. Loyall. A. S. Martin. J. N. Bell. J. D. Galt, health officer.	Weekly.....	No..	Norfolk.
Petersburg.....	Board of Health of city of Petersburg.	7	Corporation limits.	1875	Common council.....	C. V. Robinson, president and secretary. W. E. Cannon. W. F. Spottwood. J. Deaton. Dr. Frank Patterson. W. L. Baylor.	Monthly.....	No..	Petersburg.
Portsmouth.....	Board of Health of Portsmouth.	5	City.....	1856	do.....	H. H. Owens, president. H. E. Burr, M. D., health officer.	April to Nov., weekly; Nov. to Apr., every two weeks.	Yes.	Portsmouth.
Richmond.....	Board of Health city of Richmond.	3	City limits.....	1865	Common council.....	J. G. Cabell, M. D., pres't. W. H. Taylor, M. D. F. D. Cunningham, M. D.	At call of president.	Yes.	Richmond.
WEST VIRGINIA.									
Parkersburg.....	Parkersburg Board of Health.	7	City.....	1867	City council.....	J. Scott, M. D., president. E. D. Safford, M. D., sec'y. M. Campbell, M. D. S. T. Chandler, M. D. H. Koch, M. D. V. Kelley, M. D. T. A. Harris, M. D.	Twice a month in hot weather and not at all in cold.	No..	Parkersburg.
Wheeling.....	Council Committee on Health.	5	City.....	1873	do.....	J. W. Schultz, chairman. A. Caldwell. B. T. Caldwell. J. E. Hughes. J. E. Reeves, M. D. T. O. Edwards, M. D., health officer.	Monthly	No..	Wheeling.
WISCONSIN.									
Wausau.....	State Board of Health	7	The State.....	1876	Governor and senate	E. L. Griffin, M. D., pres't. J. T. Reeve, M. D., sec'y. J. Fardl, M. D. S. Marks, M. D. O. Enthine. H. P. Strong, M. D. J. F. Witter, M. D. L. Cunningham.....	Semi-annual....	Yes.	Secretary's address, Appleton.
Beloit.....	Committee on Health	4	(?).....	(?)	City council.....	O. P. Smith. W. Blodgett. L. W. Kendall.	(?).....	(?)..	Beloit.
Oshkosh.....	Oshkosh Board of Health.	5	City limits.....	1879	do.....	J. C. Noyes, M. D., pres't. H. B. Dale, M. D., sec'y.	At call.....	No..	Oshkosh.
DISTRICT OF COLUMBIA.									
Washington.....	Health Department	1	.....	1878	District Commissioners	Smith Townsend, M. D., health officer and registrar. J. C. McGinn, chief clerk.	.....	Yes.	Washington.

* In papers.



National Board of Health

BULLETIN.

VOL. I.]

WASHINGTON, D. C., SATURDAY, MAY 29, 1880.

[No. 48.]

NATIONAL BOARD OF HEALTH, WASHINGTON, D. C.

CIRCULAR TO STATE AND MUNICIPAL HEALTH AUTHORITIES.

The National Board of Health is charged with the duty of co-operating with and aiding State and municipal boards of health in preventing the introduction of contagious or infectious diseases into the United States from foreign countries, or into one State from another.

To secure efficient co-operation, the several State and municipal boards should, as far as possible, make their rules and regulations uniform, and to this end the National Board suggests for adoption the following relative to maritime quarantine. In a future circular recommendations will be made relative to inland or inter-State quarantine.

EXPLANATIONS.

1. A *suspected* port or place is one where an unimported case of yellow fever has existed within twenty days of the date of the sailing of the vessel, or one declared to be such by the local or State authorities or by the National Board. All Cuban ports should be considered as suspected from May 1 to October 31, inclusive.

2. An *infected* port or place is one at which an unimported case of either cholera, yellow fever, or plague exists, or at which either small-pox, relapsing fever, or typhus fever exists as an epidemic, or one declared to be such by the local or State authorities or by the National Board.

3. A port or place shall be considered *dangerously infected* when so declared by the local or State authorities or by the National Board.

4. Dangerous infection of localities and communities does not necessarily ensue from one case of yellow fever.

5. When dangerous infection does arise, it is usually not until after an interval of several days from the occurrence of the first case, and during this period, if proper rules be observed, in most instances persons or things may leave the infected place without danger of infecting other places or communities.

6. Upon the distinct recognition of this interval, and upon making a proper use of it, depends the possibility of limiting the spread of this disease in the infected locality; of preserving communications between such locality and other communities without danger to such other communities; and of preventing much of the suffering which usually attends an epidemic. It is because first cases are either not recognized, or not reported, that this disease seems to become epidemic, as it were, at once.

7. Yellow fever may exist in a city or large town without making it necessary to declare it *dangerously infected*—for instance where the harbor, railway stations, and commercial centers are distant from the locality infected, and have been carefully isolated. It is advised that the concurrence of the National Board be obtained before any port or place is declared *dangerously infected*.

8. The following diseases are recognized as "contagious or infectious diseases," for the purposes of these rules and regulations, viz, cholera, yellow fever, plague, small-pox, relapsing fever, and typhus fever.

9. A *suspected* vessel is any vessel arriving from a *suspected* or *infected* port or place; or which may have come in contact during the voyage with an *infected* vessel; or which may have had on board within twenty days prior to date of arrival a case of yellow fever or cholera, or which may have had on board just preceding or during the present voyage a case of small-pox, relapsing fever, or typhus fever; or which, in the opinion of the quarantine officer, is in a filthy or otherwise insanitary condition.

10. An *infected* vessel is one upon which cholera, yellow fever, or plague has occurred within ten days before or during her present voyage; or upon which typhus fever, small-pox, or relapsing fever exists at the time of arrival to such an extent that the quarantine officer declares the vessel to be infected.

11. The word "quarantine" means the administration employed to determine the presence or absence of the causes of contagious or infectious diseases, and to secure the removal or destruction of such causes, if present, and it does not imply detention for any specified time, or for more time than is necessary for the above purposes.

12. The time of detention for observation of a *suspected* or *infected* vessel should be determined according to the locality of the port, season, disease, and condition of the vessel.

13. A complete maritime quarantine station should include, 1st, a location for the boarding and detention of vessels; 2d, quarters for passengers not sick; 3d, hospital accommodation for the sick; 4th,

lighters, wharves, and warehouses for receiving and storing cargo; 5th, a chief medical officer and such other officers or agents as may be necessary for securing the examination, cleansing, and disinfection of the vessel and its cargo, passengers, and crew; 6th, boats, apparatus, &c., necessary for administration; 7th, quarters for officers and men; 8th, a burial-ground.

14. Such quarantine station should be at a point sufficiently remote from centers of population to secure immunity from diseases likely to be communicated, where vessels may safely remain at anchorage, and where the sanitary condition is favorable.

15. The quarters for passengers not sick should, as far as possible, be isolated from the quarters for the sick or other sources of infection.

16. Separate hospital accommodations should be provided for (a) diseases not infectious or contagious, (b) yellow fever, (c) other infectious or contagious diseases.

1. Rules and regulations recommended to be adopted and observed at all maritime quarantine stations in the United States.

1. Every vessel arriving from a foreign port, or from a *suspected* or *infected* port of the United States, shall immediately proceed to the boarding station and display a yellow flag, or the vessel's ensign, in the rigging, and shall be visited by the quarantine officer, between sunrise and sunset as soon as possible after such arrival. All vessels from *suspected* or *infected* ports, or from any port situated between the parallels of thirty degrees south and forty degrees north latitude, must produce a bill of health in accordance with the rules and regulations of the National Board. The quarantine officer shall examine the bill of health, and shall inspect the ship, and require of the captain or master answers, in duplicate, under oath, to the following questions. [For this purpose the quarantine officer should be authorized to administer oaths. Blank forms of the questions, together with copies of the quarantine regulations of the port, should be furnished to masters of vessels by the pilot, local board of health, or customs-house officer.]

[In duplicate; one copy to be forwarded at once to the office of the National Board of Health, the other retained at station.]

Quarantine station at _____.

Questions put to the master of _____, _____, 18—.

1. From whence is the vessel you command?
2. How many days have you been on the passage?
3. Have you touched anywhere?
4. If so, where?
5. At what date?
6. For how long?
7. Did you take in ballast, cargo, or passengers there?
8. Have you any bills of health? If so, produce them.
9. Have you communicated with any vessels in the course of your cruise or passage?
10. If so, at what date?
11. Names of vessels?
12. From what ports were they?
13. Was any sickness existing on such vessels?
14. If so, what?
15. During the course of your cruise or passage, what cases of disease have occurred on board?
16. At what dates?
17. Has any death taken place on board your vessel since you left the last port?
18. If so, at what date and from what cause, to the best of your knowledge?
19. Has any disease or death occurred on board while lying in harbor previous to sailing? If so, give particulars.
20. Has yellow fever ever existed on the ship? If so, when?
21. What is the number of officers, crew, and passengers?
22. Are the officers and crew the same as when you started?
23. How many passengers in—
First cabin?
Second cabin?
Storeage?
24. Have you any reason to think that yellow fever, cholera, or plague existed in the vicinity of the port from whence you sailed, or near any others at which you have touched, or on any vessel with which you have communicated during the present cruise or voyage?

25. What is your cargo?
 26. To whom consigned?
 27. What is your ballast, and from where obtained?
 28. What is the present sanitary condition of the vessel, cargo, crew, and passengers, to the best of your knowledge and belief?
 29. Have you a medical officer? Give his name and produce his report.

(Signature of master or captain.)

Sworn and subscribed to before me, an officer empowered to administer oaths.

[L. S.]

(Official title.)

QUARANTINE STATION,

_____ 18__.

This vessel has permission to proceed [or is detained for observation].

Health officer.

2. No vessel shall be kept under observation more than twenty-four hours without a stated decision in writing by the quarantine officer.

3. Vessels neither suspected nor infected shall be at once given free pratique and allowed to proceed to the wharf or usual anchorage.

4. In case the vessel is infected with yellow fever, the following rules shall govern the quarantine officer:

(a) The crew and passengers shall be inspected by the quarantine officer, and if any are sick they shall be removed to the proper hospital, care being taken that their persons be cleansed as far as is consistent with their condition, and that no part of their clothing or bedding enters the hospital until thoroughly disinfected.

(b) Passengers not sick shall be removed to quarters prepared for their reception, and their clothing and baggage shall be thoroughly disinfected.

(c) All other clothing, bedding, and dunnage in the vessel shall be thoroughly disinfected.

(d) The vessel's hold shall be subjected, for twenty-four hours, as thoroughly as practicable, to a first process of disinfection by fumes of burning sulphur, before disturbing the cargo; the hatches and air ports being tightly closed, after which the hatches shall be opened and the hold of the vessel, as far as possible, aired, the bilge-water pumped out, and the cargo immediately transferred to the warehouses or lighters, if such transfer is deemed necessary by the quarantine officer, either to secure the thorough cleansing and disinfection of the ship or because the cargo itself is of a character that requires disinfection.

In deciding as to the necessity for removal or treatment of cargo, the quarantine officer shall be governed by the following considerations:

First. If the ship be a tonnage ship, the removal of cargo or ballast will almost always be necessary to secure thorough cleansing of the hold.

Second. Merchandise shall be divided into three classes:

The first class (comprising clothing, bedding, personal baggage, and dunnage, rags, hides, skins, feathers, hair, silks, and woolen goods), must be thoroughly aired, and if it has been specially exposed to infection, disinfected, whether the ship be clean or foul.

The second class (comprising cotton, linen, and hemp goods), if in a clean ship, need not be interfered with, unless there is reason to suppose that it has been specially exposed to infection.

The third class (comprising all merchandise not mentioned in the other two classes), if in a clean ship, should not be interfered with.

(c) The ballast, if of earth, sand, or porous stone, shall be deposited where it cannot be exposed at low water, at a point to be selected by the quarantine officer.

Vessels needing a certain amount of ballast to maintain their upright position will be required to use float ballast, in order to complete the proper cleansing of the hold.

(f) After this preliminary disinfection, and the discharge of cargo or ballast if deemed necessary, the vessel shall be thoroughly cleansed, disinfected, and ventilated under the supervision of the quarantine officer, and this shall apply to the hold, bilge, lumber, the fore-castle or sleeping apartments of the crew, the cabin, and the cabin for passengers, as well as bunks, portable berths, bedding, &c. All decaying wood shall be scaped and disinfected with strong solutions of the sulphates or chlorides of iron or zinc.

(g) Until this process of cleansing and disinfection has been completed to the satisfaction of the quarantine officer, as shown by his certificate to that effect, there shall be no communication between the vessel and the shore or other vessels, except by the written permit of the quarantine officer, and then only in the manner and for the purpose specified in said permit; and any person or vessel communicating without such permit with a vessel in quarantine, shall also be placed in quarantine and treated as suspected. The vessel shall be discharged from quarantine after thorough cleansing and disinfection, but only upon the certificate of the quarantine officer.

5. The sick shall be detained in hospital until the quarantine officer decides that their discharge will not be attended with danger to themselves or to others.

6. Persons under observation for yellow fever shall be detained for observation for not less than _____ days from the time of last exposure. In case of other contagious or infectious diseases, they shall be detained until, in the judgment of the quarantine officer, they may be safely permitted to depart. Passengers shall be detained no longer than for the period of incubation of the disease or diseases for which the ship is quarantined. In case, however, that yellow fever, cholera, plague, relapsing fever, or typhus fever occur among the passengers so detained, the quarantine officer shall send the person or persons affected with such disease to hospital, and the others shall be detained until he shall be satisfied of their freedom from infection.

7. In case of small-pox, the sick shall be sent to hospital, and those not sick shall be immediately vaccinated or revaccinated, at the discretion of the quarantine officer, after which they shall be allowed to proceed to their destination.

8. Persons employed at the quarantine station, brought in contact with vessels infected with yellow fever, plague, or typhus fever, shall not be permitted to leave such station until their clothing and baggage has been disinfected, nor until, in the judgment of the quarantine officer, sufficient time has elapsed since the last exposure.

9. It shall be the duty of the quarantine officer to take the responsibility of applying such additional measures as he may deem indispensable for the protection of the public health.

10. Upon the departure of the vessel from the quarantine station, the vessel shall be entitled to a certificate from the quarantine officer, in accordance with the following form:

[In duplicate, one to be furnished the master and the other referred to National Board of Health.]

Form No. —.

Certificate of inspection of the [] made at quarantine station at _____, this _____ day of _____ 18__.

Date of arrival at station.

Date of inspection (hour).

Where from?

Is the vessel with cargo?

If so, the nature of cargo.

Is the vessel in ballast?

Character of, and where obtained.

Sanitary condition of all accessible parts.

Number of officers and crew.

Number of passengers.

Cases of sickness on board.

Cause of detention of vessel.

I, _____, stationed at _____ quarantine station, do hereby certify on honor that I have PERSONALLY inspected, on the day and date above mentioned, the said _____, whereof _____ is master, according to the rules and regulations of the National Board of Health; that such vessel has been _____ and is now free from infection and may proceed to her destination, and that the above record of the vessel (and cargo) as set forth in this certificate is true, to the best of my knowledge and belief.

[L. S.]

Dated _____, 18__.

Inspector, N. B. H.

SANITARY LEGISLATION IN MISSISSIPPI.

The following act in relation to boards of health was approved by the legislature of Mississippi March 4, 1880:

AN ACT to amend the statutes in regard to boards of health.

SECTION 1. *Be it enacted by the legislature of the State of Mississippi*, That sections five (5), six (6), seven (7), eight (8), nine (9), and ten (10) of an act entitled "An act to create a State board of health for the protection of life and health, and to prevent the spread of disease in the State of Mississippi, and other purposes," approved February 18, 1877, and that the act amendatory to said act, approved March 18, 1878, be, and the same are hereby, repealed.

SEC. 2. *Be it further enacted*, That the proviso containing the words "provided four Congressional districts are represented," in the first section of said act of February 18, 1877, be, and the same is hereby, repealed.

SEC. 3. *Be it further enacted*, That the State board of health may elect or appoint an executive committee, to be composed of three of its members, with a chairman, to be designated by the board from the members appointed on said committee; and said executive committee shall have authority to execute any and all the powers herein vested in said board in the interim of the meetings of said board, whenever in cases of emergency in the opinion of said executive committee the public interests require such action: *Provided*, That the board, at any regular or called meeting, shall have full supervisory

power over said executive committee, and may modify, or change, or annul any act or acts of said committee: *Provided further*, That any action of said committee shall be legal and binding until modified, changed, or annulled by said State board of health; and all pains and penalties prescribed in this statute shall apply to any violation of the rules and regulations that may be prescribed by said executive committee under the provisions of this statute.

SEC. 4. *Be it further enacted*, That the said board shall take cognizance of matters of health and life among the people of this State. They shall make inquiries in respect to the causes of disease, and especially of epidemics, and investigate the sources of mortality and the effect of localities, employments, and other conditions upon public health, and the causes of disease, and the best means of prevention of disease.

SEC. 5. *Be it further enacted*, That it shall be the duty of the said board to obtain, collect, and preserve such information relating to deaths, diseases, and health as may be useful in the discharge of its duties and contribute to the promotion of the health or the security of life in the State of Mississippi; and it shall be the duty of all health officers and boards of health in this State to communicate to said State board of health copies of all their reports and publications, also such sanitary information as may be deemed useful; and said State board shall keep a record of its acts and proceedings as a board, and it shall promptly cause all proper information in its possession to be sent to the local authorities of any city, village, town, or county in this State where said board may think that the same would be beneficial, and it is hereby made the duty of the health authorities of every county, village, city, or town in this State to supply like information and suggestions to said State board of health; and said State board of health is authorized to require information and reports at such times and of such facts, and generally of such nature and extent, relating to the safety of life and the promotion of health, as its by-laws or rules may provide, from all health officers in this State, and from all dispensaries, hospitals, asylums, prisons, and schools, and from the managers, principals, and officers thereof, and from all other public institutions, their officers, and managers, lessees and occupants of all places of public resort in this State; but such information and reports shall only be required concerning matters and particulars in respect of which it may in its opinion need information for the proper discharge of its duties; said board, when requested by public authorities, or when they deem it best, shall advise officers of the State, county, or local governments in regard to sanitary drainage, ventilation, and sanitary provisions of any public institution, building, or public place.

SEC. 6. *Be it further enacted*, That it shall be the duty of the said State board to give all information that may reasonably be requested concerning any threatening danger to the public health to the health officers of this State; all quarantine commissioners, and all sanitary authorities shall, as far as legal and practicable, co-operate to prevent the spread of diseases, and for the promotion of health within the sphere of their respective duties.

SEC. 7. *Be it further enacted*, That it shall be the duty of the State board of health, on or before the first Monday in December preceding each session of the legislature of this State, to make a report to the governor of this State, in writing, who shall lay the same before the legislature at the ensuing session, upon the sanitary condition and prospect of the State; and said report shall set forth the action of said board, of its officers and agents, and the names thereof, since the last preceding report, and such matters in regard to local health authorities as may be deemed advisable, and may contain other useful information, and shall suggest further legislative action or precaution deemed proper for the protection of life and health and the prevention of disease.

SEC. 8. *Be it further enacted*, That it shall be the duty of the chief health officer of each county to report to the State board of health every matter involving the health of the county, to examine and report in regard to the ventilation of theaters, city halls, and public buildings generally, in regard to preservation of human life in case of fire, to make report of matters needing attention in public schools for the preservation of the health of the pupils, to report in regard to any matter calculated to affect injuriously the public health, and to report generally in regard to the public health of his county. It shall be his duty to correspond with the State board of health and give to said State board any items that he may deem worthy of communication, and shall, as often as required by said State board or the secretary thereof, give information of any kind that he may be called upon to furnish. It shall be the duty of said county health officer to examine drinking water in different localities, and it imputes be discovered to make the same known to the public, giving at the same time the means of purifying the same, and shall report on stagnant pools and other matters that would have a deleterious effect on the water used for domestic purposes, or that would cause malaria or be injurious to the public health, whether the same be on private premises or public highways or elsewhere, and shall examine and report on market houses or butcher-stalls and any other matter that may, in the opinion of said health officer, have a tendency to injuriously affect the public health.

SEC. 9. *Be it further enacted*, That in all cases where such county health officer may make a report of any matter in his county calculated, in his opinion, to produce or to aggravate or cause the spread

of any epidemic, endemic, or contagious disease, or in any way injuriously affect public health, the State board of health may declare the same a nuisance, and upon the request of said board it shall be the duty of the district attorney of that district to immediately commence proceedings by an information, in the name of the State, in the circuit court of the county, to have the same abated as a nuisance, and if, in the opinion of the State board of health, the same is urgent, said board shall so state in its request to the district attorney, and also in a communication to the judge of the circuit court of the district, who may try the information on five days' notice to the parties interested, in vacation, and may suppress the same as a nuisance, allowing a writ of error, as if the case had been tried in term time, but there shall be no supersedeas, unless the judge in vacation or the court shall expressly allow the same by special order, and no supersedeas shall be granted where the public health, in the opinion of the court or judge, would thereby be injuriously affected.

SEC. 10. *Be it further enacted*, That the State board of health shall have power to make all rules deemed needful for enforced vaccination, for compelling reports to the health officers of the counties of yellow fever, cholera, scarlet fever, diphtheria, measles, or small-pox, or other contagious or infectious diseases, and to make all rules and regulations that it may deem necessary to prevent the spread of any such diseases, and may cause persons so affected to be separated, and may order that families or establishments of any kind where such diseases, or any of them, are supposed to exist shall not leave the houses so affected, or shall be quarantined, and may make such rules as it may deem necessary for disinfecting premises where such diseases are or have been, and for disinfecting clothing or destroying the same; and any person violating such rules or regulations shall be fined for each offense in any sum not exceeding fifty dollars, or by imprisonment in the county jail, not exceeding one month, or by both such fine and imprisonment, at the discretion of the court having jurisdiction.

SEC. 11. *Be it further enacted*, That all incorporated towns in this State shall have the power to pass sanitary laws and to create boards of health and to suppress as nuisances anything that is dangerous to public health, with full powers of enforcing ordinances for registration and mortuary statistics: *Provided*, The same are not inconsistent with the rules and regulations of the State board of health and the constitution and laws of the State.

SEC. 12. *Be it further enacted*, That a chief health officer shall be appointed in each county in the State by the governor, on the nomination of the State board of health, and who shall be a physician of well-known sanitary attainments, whose term of office shall be for two years from the date of his appointment. The salary of said health officers to be fixed by the board of supervisors of such county, but in no case to exceed the salary of the superintendent of education of such county; to be paid semi-annually by county warrants, to be issued in the same manner as general county warrants, and payable out of the general county funds. Any inferior county remote from railways, navigable streams, and the seacoast, and having a sparse population, may be exempt from this statute by application to the State board of health made by the board of supervisors: *Provided*, That said board of health deems it prudent and proper to grant such exemption.

SEC. 13. *Be it further enacted*, That the governor may at any time, on the recommendation of the State board of health, remove any chief health officer of any county and appoint a successor in the mode prescribed in the preceding section, whose term of office shall be two years from the date of his appointment.

SEC. 14. *Be it further enacted*, That the State board of health shall have the power to make all sanitary rules to be enforced in the several counties, and the chief health officers shall be required to enforce said rules in their respective counties.

SEC. 15. *Be it further enacted*, That the secretary of the State board of health shall furnish to the secretary of state, to be filed in the office of the latter, suitable forms for such printed blank books and printed blank forms as said board and the secretary of said board may need in the discharge of the duties prescribed by law, and it shall be the duty of the secretary of state to have printed and furnish to the State board of health, on the requisition of the secretary of said board, all the printed forms, blank books, as well as stationery, required by the board or secretary thereof, which shall be paid for in the same manner as printing and stationery for the office of secretary of state.

SEC. 16. *Be it further enacted*, That the secretary of the State board of health shall receive an annual salary of eight hundred dollars, payable quarterly, and for which the auditor of public accounts shall issue a warrant or warrants to said secretary; and the sum of twelve hundred dollars, annually, is hereby appropriated for said purpose.

SEC. 17. *Be it further enacted*, That each member of the State board of health shall be paid the actual necessary expenses incurred by him in attending the meetings of the board of health, and in addition a per diem of three dollars for each day actually spent in such service, for which the auditor of public accounts shall issue a warrant to each member on the certificate of the secretary, countersigned by the president of the State board of health, and the sum of seven hundred and fifty dollars, or so much thereof as may be necessary, annually, is hereby appropriated for said purpose.

SEC. 18. *Be it further enacted*, That the power to establish quarantine in this State shall be vested alone in the State board of health, and in such cases whenever it is deemed necessary to prevent the introduction of yellow fever or other infectious diseases from an adjoining State, shall have the power to establish quarantine stations at the limits of the State at such places as may be deemed necessary; and said State board of health shall enforce at such stations such rules as may be adopted by said board, with the approval of the governor of the State; and the sum of twenty-five thousand dollars is hereby appropriated for said purposes and for the payment of all expenses incurred by the State board of health under the provisions of section 19 of this statute, but no part of this amount shall be used except it becomes absolutely necessary, and then the auditor of public accounts shall issue a warrant or warrants only on the certificate of the secretary of the State board of health, countersigned by the president of said board, and approved by the governor of the State.

19. *Be it further enacted*, That the chief health officer of any county, or any municipal board of health, may establish local quarantine for their respective counties, or town, or cities, and enforce the same by such rules and regulations as they may prescribe; but the State board of health shall have supervisory power over such quarantine, and may alter, amend, or supersede the same. But if, in the opinion of the State board of health, it becomes necessary to establish a quarantine in any county, city, or town, and the local health authorities shall fail or refuse to do so, then the State board of health shall establish and conduct said quarantine at the expense of the State. The same to be paid for out of the appropriation provided for in section 18 of this act.

SEC. 20. *Be it further enacted*, That in all cases where quarantines are established by any county, city, or town in this State, under the provisions of this statute, the expenses of the same shall be paid by such county, city, or town, by warrants issued by the proper county, city, or town officials, to be paid out of any general funds of the same, to be provided for by taxation as other claims against said county, city, or town.

SEC. 21. *Be it further enacted*, That when yellow fever or other epidemic disease shall make its appearance in this State, the State board of health shall take charge of the infected locality and enforce such rules as may be deemed necessary to prevent the spread of the disease; said rules to be adopted by said State board of health with the approval of the governor, and the sum of twenty thousand dollars, or so much thereof as may be necessary, is hereby appropriated for this purpose, and for the expenses incurred under the provisions of section 23 of this statute, to be paid out on the same conditions as prescribed in section 18 of this act.

SEC. 22. *Be it further enacted*, That any person violating quarantine rules and regulations, made under authority of this statute, or any rules and regulations made under the authority and provision of section 21 of this act, published so as to be known by such person, shall, on conviction, be punished by a fine of not more than five hundred dollars, or imprisonment for not more than six months in the county jail, or in such manner as prescribed by said quarantine regulations, or by said regulations adopted under section twenty-one of this act, not exceeding the punishment herein prescribed; and every person or thing may be forcibly detained to compel observance of quarantine regulations, or regulations made under authority of section 21 of this act, and shall be liable for any personal injury, action, and anything seized and held for quarantine or under the regulations authorized by section 21, may be sold to cover the expenses of dealing with it.

SEC. 23. *Be it further enacted*, That if, in the opinion of the State board of health, it should be necessary to employ inspectors more effectually to accomplish the object of this act, the said board shall have the power to appoint competent physicians for this duty; said inspectors to be paid, out of the appropriation provided for in section 21 of this act, a per diem not to exceed ten dollars for the time actually employed on said duty, and their necessary expenses, to be paid out of the appropriation made in section 21 of this statute.

SEC. 24. *Be it further enacted*, That section 2739 of the revised code of 1874 be, and is hereby, repealed.

SEC. 25. *Be it further enacted*, That so much of section 4 of an act entitled an act to create a State board of health, for the protection of life and health, and to prevent the spread of disease in the State of Mississippi, and for other purposes, approved February 1st, 1877, and all acts and parts of acts in conflict with this act be, and they are hereby, repealed, and this act shall take effect and be in force from and after its passage.

Approved March 4, 1880.

OFFICE OF SECRETARY OF STATE,
Jackson, Mississippi.

I, Henry C. Myers, secretary of state, do certify that the act hereto attached, entitled "An act to amend the statutes in regard to boards of health," is a true and correct copy of the original now on file in this office.

Given under my hand and the great seal of the State of Mississippi, hereunto affixed, this 12th day of March, 1870.

[SEAL.]

HENRY C. MYERS,
Secretary of State.

SANITARY LEGISLATION IN MICHIGAN.

The State Board of Health of Michigan distributes the following form, to facilitate compliance with the acts requiring householders and physicians to report all cases of contagious or infectious disease :

[Form of notice recommended by the State Board of Health for the use of householders and physicians, in complying with sections 1734 and 1735, Compiled Laws of Michigan, 1871, and section 1740, C. L., 1871, as amended by act No. 145, Laws of 1879. See over.]

To the clerk or health officer of the* of county of
..... State of Michigan, as clerk or health officer of the
Board of Health :

SIR: The following persons, within the jurisdiction of your board, have been taken sick with "diseases dangerous to the public health,"

[illegible]

So far as known, the source.....of the contagious or infectious
cause..... of the disease.....as follows: For cage No. 1,
it was

The residence of the sick persons above reported is as follows: Of case No. 1, it is at No. street, ; of case No. 2, it is,

This notice is given by.....
Dated at No.....street..... 188.

* Insert the word *city, village, or township.*

[†] Includes measles, whooping-cough, diphtheria, scarlet fever, typhus fever, typhoid fever, puerperal fever, erysipelas, small-pox, cholera, &c.

On the back of the above *notice* the sections of legislative acts referred to are printed, as follows:

Sections 1734 and 1735, Compiled Laws of Michigan, 1871, are as follows:

(1734.) SEC. 43. Whenever any householder shall know that any person within his family is taken sick with the small-pox, or *any other disease dangerous to the public health*, he shall immediately give notice thereof to the board of health or to the health officer of the township [city or village*] in which he resides; and if he shall refuse or neglect to give such notice, he shall forfeit a sum not exceeding one hundred dollars.†

§ 1735c. Sec. 44. Whenever any physician shall know that any person whom he is called to visit is infected with the small-pox or any other disease dangerous to the public health, such physician shall immediately give notice thereof to the board of health or health officer of the township [city or village] in which such diseased person may be; and every physician who shall refuse or neglect to give such notice, shall forfeit, for each offence, a sum not less than fifty nor more than one hundred dollars.

See section 1740, *Consolidated Laws, 1871*, as amended by act No. 145, *Laws of 1879*.

1 Supervisors must prosecute for all such forfeitures; township officers, must give notice to supervisor; prosecuting attorney to conduct suit if requested; see sections 6852, 6853, and 6855, Compiled Laws of Michigan, 1871. Health officers of villages and cities must notify prosecuting attorney of all violations of this section—see act No. 157, Laws of 1879; the prosecuting attorney must prosecute for all such forfeitures incurred within his county—see section 6855, Compiled Laws of 1871.

Notice of sickness of _____

Sick with

Reported by

File _____

BY-LAWS AND REGULATIONS FOR THE MARYLAND STATE BOARD OF HEALTH.

Rule 1. The board shall elect one of its own members president, who shall hold office for one year and until his successor is elected.

Rule 2. The president shall, when present, preside at all meetings of the board, appoint all committees not specially named by the board, and audit all accounts as provided in section 8 of the act establishing the board.

Rule 3. The secretary shall be *ex-officio* a member of all standing committees, and by virtue of the provision of the act of assembly making him the executive officer of the board he shall be *ex-officio* chairman of the executive committee. He shall, in addition to the duties prescribed by law, keep a record of all the proceedings of board meetings; he shall conduct all correspondence of the board; he shall give notice of the time and place of holding the meetings; he shall call special meetings whenever he may think it necessary, or at any time when requested by the president or two members of the board.

Rule 4. The board shall hold stated quarterly meetings on the first Wednesday in January, April, July, and October, and such other meetings as may be designated under the provisions of Rule 3. The meeting in January shall be considered the annual meeting of the board.

Rule 5. The following committees shall be annually appointed by the president: An executive committee; a committee on State medicine and public hygiene; a committee on the sanitary condition of cities, towns, and villages; a committee on the sanitary condition of "The Belt" and the counties of the Western Shore; a committee on the sanitary condition of the counties of the Eastern Shore; a committee on drainage and ventilation; a committee on legal proceedings; a committee on public institutions; a committee on epidemics, endemics, and contagious diseases; a committee on pollution of streams and water supplies; a committee on vital statistics and local boards of health; a committee on sanitary legislation.

Rule 6. The executive committee shall have general supervision of all matters connected with the operations of the board, and devise the methods best adapted to render the organization of practical utility to the people; they shall have charge of the publication of all reports and other papers for general circulation, and shall decide all questions of emergency when a majority of the board cannot be convened. Other committees shall examine all matters referred to them, and report their action and recommendations promptly to the board or the executive committee.

Rule 7. The following shall be the order of business in the stated meetings of the board:

1. Reading minutes of last meeting.
2. Reading communications.
3. Report of secretary.
4. Reports of committees.
5. Business left over.
6. New and miscellaneous business.

COMMITTEES.

1. *Executive*—Messrs. Chancellor, *ex-officio*; Howard, and Steuart.
2. *State Medicine and Public Hygiene*—Messrs. Howard, Ward, and Secretary.
3. *Sanitary Condition of Cities, Towns, and Villages*—Messrs. Steuart, Howard, and Secretary.
4. *Sanitary Condition of "The Belt" and the Counties of the Western Shore*—Messrs. Ward, Steuart, and Secretary.
5. *Sanitary Condition of the Counties of the Eastern Shore*—Messrs. ———, Ward, and Secretary.
6. *Drainage and Ventilation*—Messrs. Neilson, Steuart, and Secretary.
7. *Legal Proceedings*—Messrs. Gwinn, ———, and Secretary.
8. *Public Institutions*—Messrs. Neilson, Ward, and Secretary.
9. *Epidemics, Endemics, and Contagious Diseases*—Messrs. Steuart, Howard, and Secretary.
10. *Pollution of Streams and Water Supply*—Messrs. Ward, Neilson, and Secretary.
11. *Vital Statistics and Local Boards of Health*—Messrs. Howard, Steuart, and Secretary.
12. *Sanitary Legislation*—Messrs. Gwinn, ———, and Secretary.

OFFICERS AND MEMBERS OF THE STATE BOARD OF HEALTH OF MARYLAND.

E. Lloyd Howard, M. D., president, Brooklyn, Md.
 C. W. Chancellor, M. D., secretary, Baltimore, Md.
 J. Robert Ward, M. D., Georgetown, Md.
 J. Crawford Neilson, C. E., Baltimore, Md.

MEMBERS EX-OFFICIO.

Hon. C. J. M. Gwinn, attorney-general, Baltimore, Md.
 James A. Steuart, M. D., health commissioner, Baltimore, Md.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

PORT RINGGOLD, TEX.—Assistant Surgeon John R. Smith forwards a report, dated April 20, stating that small-pox still prevails in Rio Grande City, Tex., and Camargo, Mexico. At the former place 15 cases had occurred since last report, of which 13 were fatal. At the fort two cases appeared, April 6 and April 8, in the Twenty-fourth Infantry; both were private, and one died. The disease was brought from Rio Grande City by the company tailor, whose house was infected. Revaccination was done on 103 of the colored soldiers, 85 proving successful, and on 68 of the white, 15 being successful.

HAVANA, CUBA.—Latest advices report 14 deaths from yellow fever during the week ending May 14; 8 were in the city, and 6 in the military hospitals. The shipping is still exempt. There were 18 deaths from small-pox during the week.

JAPAN.—Dr. P. Fitzsimmons sends the following "Sanitary Report on Japan":

The following communication is based on two pamphlets just published by Dr. Nagayo Sensai, director of the Central Sanitary Bureau of the Home Department of the Imperial Japanese Government:

"The director is candid himself, and as it would be impossible to make facts more explicit, they are often stated in his own words. He gives a plain picture of the difficulties under which his government labors in accomplishing sanitary reforms, first educating physicians to the required standard, and then carrying out pre-determined measures, as they and the people are able to utilize them. At present in the open ports foreign doctors of recognized ability are employed, who act as advisers in cases of doubt and in emergencies, involving restrictions to Japanese and to foreigners whose representatives recognize the right of the government to protect itself from the importation of deadly epidemics.

"He shows how precautionary measures have been desired and their accomplishment prevented disastrously to the country, as in the epidemic of 1877. 'It remains still an open question whether the lives of the seven thousand eight hundred persons who died of cholera in 1877 might not have been saved, if measures of medical inspection had been adopted at the open ports.'

"A bureau of medical affairs was established in June, 1873, which drew up a preliminary sanitary code, embracing sanitary affairs, course of study in medical schools, examination of candidates for medical certificates, examination of candidates for licenses as apothecaries, &c. In June, 1875, the sanitary control of the empire was intrusted to the central sanitary bureau under the Home department, when the latter ordered deaths to be registered. In January, 1876, it was directed that medical aspirants should pass a prescribed examination, and a certificate was granted or refused on the merits of the papers which were forwarded to the Home department. Practitioners could obtain the certificate after a satisfactory examination, but it was not obligatory (most of these follow the Chinese system), and though they are said to have strong friends at court and owe much to that favor, I do not think it is a fixed fact that the system is without merit. Dr. Song, of Canton (Chinese Customs Medical Reports), states that they obtain similar results, using the same or similar drugs, and adds that it is difficult to demonstrate the superiority of a foreign drug, when its immediate good effects are not patent and its ultimate good effects doubtful. The system does not rest on a scientific basis, but it is elaborate, and educated observers must have gained some knowledge, with the large number of drugs at command, during two thousand years.

"In June, 1877, the total number of physicians was 31,268; 20,568 followed the Chinese system, 6,602 the western (200 qualified by examination), and 4,098 followed the mixed system.

"The total number of hospitals in 1877 was 106, of which 64 were public, 7 general government institutions, and 35 private. If we added the branch hospitals, lock hospitals, charitable hospitals for the poor, the grand total would be 129. 'The hospitals are still considered to a great extent merely for patients of the higher classes, or for such difficult cases as ordinary physicians are unable to satisfactorily deal with.' Appended is a description of the Japanese hospital at Yokohama, which is probably one of the best, and is the only one which I have had the opportunity of inspecting. It would be impossible to enter into all the subjects treated, and I give Dr. Sensai's account of contagious and infectious diseases as the most important:

"General regulations for treatment of poor when malignant, infectious diseases are prevalent (government).

"ART. 1. When a malignant, infectious disease prevails in any place, the local authorities shall immediately dispatch a certain number of medical officers to the place, for the purpose of gratuitously treating and nursing the poor.

"ART. 2. The salaries of the medical officers dispatched shall vary according to their respective merits, but they shall not exceed the maximum of fifteen yen (at present \$10) per month for each physician. They shall be paid according to the number of days on which they have actually been in service at the rate, &c., &c. Traveling expenses, &c., allowed, &c., &c."

"Typhus and typhoid fevers, small-pox, dysentery, and diphtheria are usually of a very malignant type." The cases are probably imperfectly reported, as in table for one year (1875-76) 227 cases are given of typhus and typhoid fever, with only 5 deaths, while of intermittent fever there were 4 cases and no recoveries. Of small-pox 689 were cured and 502 died in the same year. He states that since 1875, when an epidemic of small-pox spread over Japan, many cases have been reported as occurring at the end of winter and the beginning of spring of every succeeding year. Great attention is paid to vaccination, and the original fresh virus is furnished from Tokio, free of charge, on application. The total number of vaccinations for the last half of the 8th year was 235,940, out of which 171,061 were successful, 8,888 unsuccesful, and 115,991 were cases of persons vaccinated for the second or third time. For the first half of the 9th year there were 715,975 vaccinations, out of which 514,684 were successful and 17,822 unsuccessful among those vaccinated for the first time. And 48,567 were successful and 134,902 unsuccessful among those vaccinated for the second or third time.

"In a report on cholera for 1877 he expresses the opinion that cholera, whenever it has been observed in Japan in a great epidemic state, has been introduced into this country either from Java or China, and there are also many reasons for the belief that isolated cases of common cholera, and even weak epidemics of choleric disease, have always existed and do still exist in Japan in an endemic state."

"An epidemic of cholera swept over the country in 1822, which he thinks was introduced by Dutch ships, coming to Nagasaki from Java. Cholera was epidemic in Java during 1820 and 1821, and Nagasaki, where it commenced in Japan, was the only port then open to Dutch and Chinese vessels."

"No particulars are attainable about another epidemic, twenty years later."

"In 1855 the Dutch reported cholera in Java and the Crimea; and 'It is generally believed that the first case which broke out at Nagasaki was brought there by the United States man-of-war Mississippi, coming from China with cholera patients on board' (July, 1855), and he adds, 'This belief' was confirmed by the testimony of Dr. Pompe Van Meenderdooft, referring to his book. The number of deaths in Yeddo for one month 'was estimated at over 100,000.' There was no case in 1860, but in 1862 an epidemic again prevailed."

"In reference to the disease in 1877, the first information was received on the 15th of July from the Japanese consul at Amoy, and, in answer to a request for information, the Japanese consul at Shanghai telegraphed that 'Cholera is raging at Amoy, and a malignant diarrhoea of somewhat similar character is also prevalent at Shanghai.'"

"Regulations for inspection at the open ports of Japan had been agreed on in 1873, but before preventive measures were instituted the minister of foreign affairs was requested to consult with foreign representatives, and 'to amend any articles, if necessary.' He replied that inspections and quarantine hospitals were not needed, because the governor of Hong-Kong had telegraphed, in reply to the British minister, that there seemed 'no fear of a further spread of the disease at Amoy.'"

"The execution of the regulations was thereupon postponed, and about a week afterward cholera appeared in Yokohama and Nagasaki nearly simultaneously, at the latter place in the person of a boatman, and at the former in two persons working in a tea-firing establishment of a foreign firm. The report says 'It seems probable that the infection was caused by the merchandise, which had come from Amoy and was kept in the godown of the firm.'"

"It has been impossible to give all the evidence Mr. Sansui adduces. He goes into the subject elaborately, and the fact is patent that there has never been even a thorough inspection of vessels coming from infected ports. Last year, as is well known, the German minister openly defied the quarantine regulations, and the British minister also did so, as far as the Japanese regulations were concerned. It seems a pity that a country with so few open ports should have reasonable precautionary measures set at naught by foreigners under the cover of old treaties which have expired."

JAPANESE HOSPITAL AT YOKOHAMA.

"This hospital, the third of the kind established in Japan, was commenced in 1874, and finished last year. Originally, in 1872, a three-storied foreign-built house was devoted to the purpose, and put under the care of Dr. Simmons, a cultivated physician, who has studied on the continent as well as at home."

"The building has a good location on a hill in the suburbs, and consists of a series of pavilions, which rise one above the other on terraces. The style is purely Japanese. Each room is about 12 by 10 feet, and 10 feet high; two-sides usually (sometimes three) are formed of light sliding doors covered with translucent paper, the floors are covered with soft yielding mats, and on these the mattress is directly placed. An open iron vessel, in which a small charcoal (wood) fire is kept, completes the bare furniture of the room, but it is impossible to describe the light and cheerful aspect given by the artistic arrangement of the stained woods. The cleanliness is extreme as shoes are left at the door. Bedsteads were tried, but they interfere with the comforts and habits of the natives. Water-closets are conveniently

located, and bathing facilities are good. No case of hospital disease has occurred in the building, and it is admirably suited to the people and climate, although foreigners probably would suffer during the cold season."

"The insane department accommodates fifteen. At present there are ten inmates. Each patient has a room, and the greatest liberty is allowed, compatible with safety. The fare is Japanese, and its principal articles, rice, milk, beef-teen, eggs, and wines, are ordered specially, without regard to class. Until the past year none but pay-patients were admitted. At present there are thirty free beds, and the ward office is very particular in establishing indigence. A clinic is held for the poor, but they pay for medicines unless they can show a certificate for indigence. The hospital has capacity for one hundred, but at present there are fifty-one inmates. They came from all parts of the country, as the doctor is well known. Patients pay from thirty to seventy-five cents per day, and the government receives a return of about 50 per cent. on the outlay. The doctor is sanitary adviser to the ken, and when a contagious or infectious disease is reported, either he, or one of his six assistants, inspects and reports the disease. When the patient is in good circumstances, he remains at home under the supervision of the sanitary inspectors, and the house is disinfected. If in bad circumstances, or crowded locality, he is removed to special hospital."

TUNPAN, MEXICO.—Dr. A. M. Boyd reports the general sanitary condition of this place very good, and no epidemic prevailing. In March there were 25 deaths; malarial fevers 3, consumption 3, small-pox 2, and dysentery 1. In April, 25 deaths; malarial fever 3, consumption 1, small-pox 1, diarrhoea and dysentery 2. The board of health is very active in preserving good sanitary conditions.

ABSTRACTS FROM CONSULAR REPORTS.

LEEDS, ENGLAND.—The report for the week ending May 1 shows 121 deaths, giving an annual rate of 20.3 per 1,000. Among the causes were measles 2, scarlet fever 1, whooping cough 1, and diarrhoea 3. Thirty-eight deaths were under one year of age. The births during the week were 243, giving an annual rate of 39.8 per 1,000 of population.

NEWCASTLE-ON-TYNE, ENGLAND.—The consular report for the week ending April 17 notes that scarlet fever is epidemic, and that lung diseases are very fatal, as usual at this season, when cold and damp east winds prevail. Of 82 deaths during the week, 6 were from scarlet fever, and 31 from lung diseases. There were 13 deaths under 5 years. The high death-rate (28.5) is not ascribed to any local causes, and the condition of the city is considered very good.

XINGTO, CHINA.—United States Consul Edward C. Lord sends weekly reports from March 12 to April 3. The population of the city is estimated at 300,000, and the diseases are generally such as prevail in our own cities of similar size. Dysentery and sporadic cholera are more common, and small-pox being kept up by the practice of inoculation is always present, but does not seem to be very fatal and attracts little attention. No records of deaths are kept.

SABANILLA, UNITED STATES OF COLOMBIA.—United States Consul E. P. Pellet reports, under date of April 27, that small-pox is no longer epidemic in the port of Baranquilla, and upon the testimony of reliable physicians to that effect, he has resumed the issue of clean bills of health. From June 1, 1879, to date, about 750 persons, all of the lowest class of the people, have died of small-pox.

SINGAPORE, April 12.—United States Consul A. G. Sturder reports his consular district still free from contagious or infectious diseases.

MISCELLANEOUS.

RIO DE JANEIRO, BRAZIL.—From the statement of the board of health, as published in the *Rio News* of April 23, there were 321 deaths in the city from yellow fever in the first three months of 1880. The report from the hospital at Jureubá gives 552 cases admitted in the same time; of these, 134 were fatal, giving a total mortality of 1,055 for the quarter ending April 30. In the first 15 days of April there were 118 deaths in the city and 15 in the hospital, total 133, showing that the disease is still increasing in fatality.

NOTICE.—State and municipal boards of health which are not included in the list published in No. 47 of the BULLETIN, are respectfully requested to forward replies to the schedule of questions heading that list.

LOUISIANA QUARANTINE PROCLAMATION.

The following proclamation was issued May 4 by the governor of Louisiana:

STATE OF LOUISIANA, Executive Department.

Whereas section 3040 of the Revised Statutes of the State of Louisiana, approved March 14, 1870, provides that the governor shall issue his proclamation, upon the advice of the board of health, declaring any place where there shall be reason to believe a pestilential, contagious, or infectious disease exists to be an infected place, stating the number of days a quarantine is to be performed by the vessels, their passengers, officers, and crews, coming from such place or places:

Now, therefore, in pursuance of the provisions of the statute aforesaid, and on the recommendation of the board of health, I, Louis A. Wiltz, governor of the State of Louisiana, have thought proper to issue this my proclamation, declaring that all vessels arriving from and after the 10th day of May, 1880, from the following ports, known to be infected with yellow fever, viz: Havana, Vera Cruz, and Rio de Janeiro, and the officers, crews, passengers, and cargoes arriving from the above-named places, or having touched or stopped at any of them, shall be subject to such detention and quarantine as the board of health may direct.

And I do hereby direct the proper officers at the quarantine station to rigidly enforce the execution of this proclamation, and any violation of the laws of this State on this subject-matter to be vigorously prosecuted.

In testimony hereof I have herewith set my hand and caused the seal of the State to be affixed, at the city of New Orleans, this 4th day of May, in the year of our Lord one thousand eight hundred and eighty, and of the one hundred and forty-fourth of the Independence of the United States of America.

LOUIS A. WILTZ.

By the governor:

WILL A. STRONG,
Secretary of State.

CIRCULAR RELATING TO SANITARY INSPECTION ON RAILROADS.

CHICAGO, ST. LOUIS AND NEW ORLEANS R. R. CO.,
OFFICE OF THE VICE-PRESIDENT AND GENERAL MANAGER,
No. 226 St. Charles Street, New Orleans, May 17, 1880.

In view of the earnest desire entertained by this company to use every available means within its reach to forestall and obviate the prevalence of contagious or infectious diseases along its line, and also of its wish, in the event of the existence of such diseases, to co-operate to the fullest extent with local, State, and national health authorities.

Dr. Henry Stone is hereby appointed sanitary inspector of this company's railroad, stations and station grounds, shops, &c., between East Cairo and New Orleans.

Officers and agents of this company will co-operate and advise with him in all matters calculated to prevent and arrest the spread of any disease that may exist or originate on this railroad or in the communities adjacent thereto.

Dr. Stone will pass over this line, visiting, from time to time, as many places as his duties will permit.

Superintendents and officers, whose duty it is to operate the road, will, with Dr. Stone, from time to time, confer and co-operate with all local and State boards of health and municipal authorities at the several points on this company's railroad, to aid them in preserving the general public health; and in the event of any quarantine regulations being found necessary, they will confer with the proper authorities and arrange in the most practical way to observe and maintain such restrictions as may be best calculated to secure the end in view.

Dr. Stone will put himself in communication with representatives of the National Board of Health in the States of Louisiana, Mississippi, Tennessee, and Kentucky, and through the division superintendents of this company's railroad carry out, as far as practicable, the rules, recommendations, and suggestions of the National Board of Health.

By a proper co-operation with all authorities such regulations may be adopted as will give all the security to the several localities that can be obtained, and at the same time offer the least inconvenience to the movements of passengers and freight, thereby greatly aiding in the successful operation of the railroad, so necessary to the people residing thereon and communities adjacent thereto, during the prevalence of severe sickness or epidemics.

From the activity and earnestness with which sanitary regulations are being enforced at all prominent points in the Mississippi Valley, we have reason to hope and believe that, with the aid of the National Board of Health, we shall escape yellow fever and other infectious or contagious diseases during the present, and, we trust, in future years.

JAS. C. CLARKE,

Vice-President and General Manager.

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REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MAY 15, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Croup.	Diarrheal diseases.	Diphtheria.	Enteric.	Malarial.	Scarlet.	Yellow.	Lung diseases, acute.	Meninges.	Puerperal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents.
Me.	Portland	36,400	0	20	28.6	5						2		12						
N. H.	Concord	14,000	1	14	18.3	3														
Mass.	Boston	375,000	54	132	18.3	23		1	1	1	1			12	1			2	20	8
	Cambridge	50,400	1	12	12.4	4		1						12						1
	New Bedford	27,000	4	3	12.2	1	1				1			1				1		
	Newburyport	15,800	4	6	18.6	1								1						
	Marblehead	7,500	12	7	48.2									1						
	Fall River	48,500	13	26	27.9							1			3			1		
	Plymouth	6,333		4	32.9															
	Lawrence	40,000	12	11	14.3	3				3				1						
	Worcester	32,000	3	21	21.0	5						1					1			
	Lowell	54,000	8	21	20.2	4											1			1
	Lynn	37,000	11	21	20.6				9		1									
	Brookton	13,000	3	7	28.0	1								1						
	Holyoke	20,000	6	6	12.0					1				1						
	Milford	10,000		4	20.8															
	Chicopee	11,000		4	17.0	1								12						
	Somerville	23,500	4	4	8.9									1					2	1
	Springfield	31,500	3	1	11.0									1		1				
	Fitchburg	12,600	4	9	37.2	3														
R. I.	Providence	103,000	10	35	17.7	1				1		8		8				1	11	1
Conn.	New Haven	60,000	10	26	22.6	4			2	3		8		12					5	2
Vt.	Burlington	16,500		3	9.4	1												1	1	
N. Y.	New York	1,109,820	109	563	27.5	97	16	13	16	1	13	2		111	18	8	1	3	101	33
	Brooklyn	564,448	82	221	20.4	27	7	6	11	2	8	3		12	9	1		3	55	13
	Yonkers	20,000	12	4	10.4															
	Poughkeepsie	21,000		7	17.3	2														
	Newburgh	17,000		8	23.5	1		1												
	Utica	35,000	3	9	13.4					1										1
	Rochester	90,000	15	35	20.2	2			2						3				5	3
	Binghamton	18,000		1	2.9															
	Buffalo	170,000	12	42	12.9	6			3		1	1							7	6
	Saratoga Falls	6,000		1	8.3															
	Watertown	12,000	1	3	13.0															
N. J.	Hudson County	209,000	34	90	22.4	5	1		1			3		12	2	3		10	3	
	Newark	125,630	26	64	26.7	12			2	1	1			6						1
	Plainfield	8,000		1	6.5															
	Burlington	7,500		2	13.9															
Pa.	Philadelphia	901,380	118	330	19.1	63	1	7	8	9		9		12	3	5				
	Erie	50,000	6	12	20.8	1			1											
	Pittsburgh	124,000	15	18	16.7	8			5	2	1	5			3			1	11	3
Del.	Wilmington	45,000	7	16	18.5	5	1					1			1					
Md.	Baltimore	100,000	16	129	16.8	19	3	8	2	4	1	5		2				1	27	8
District of Columbia		170,000	30	68	20.8	16			2		1	1		8				6	3	
Va.	Norfolk	26,200	3	10	19.9	1													4	1
	Richmond	80,000	9	31	20.2	6				1				1						
	Lynchburg	21,000	2	7	17.3	2				1				2						
S. C.	Charleston	57,000	13	33	30.2	4		3		4	1			1				2	5	
Ga.	Savannah	33,250	6	33	20.4	1		1		1	1	8		1					1	1
	Augusta	27,000	7	12	23.2	1														
	Atlanta	41,548	7	14	17.5	4		1						2	2					3
	Rome	5,000	1	1	10.4															
Fla.	Jacksonville	12,000	2	4	17.3	1				1										
Ala.	Mobile	19,000	5	17	22.1	3														
	Selma	7,076	1	2	14.7	2														
Miss.	Vicksburg	15,000		6	20.8	2														
La.	New Orleans	210,000	39	126	31.3	13		8	1	2	13	1		6	5	1		5		
	Shreveport	9,500	4	8	13.9	1														
Tenn.	Memphis	7,000	1	9	21.3	1			1											
	Nashville	37,000	8	19	26.7	3			2										2	
	Clarksville	6,000	2	3	26.0				2											
Ohio	Cincinnati	250,000	41	111	20.6	11			3			3		8	13	1		2	32	3
	Cleveland	175,000	6	35	16.4	3			1	3	1			3						3
	Dayton	39,000	1	6	8.0	2														1
	Gallipolis	5,500																		
Mich.	Lansing	10,000	3	5	26.0															3
Ind.	Evansville	10,000	5	3	16.3	1									5	1				
	Indianapolis	100,000	24	35	18.2	2														
	Richmond	14,000		1	3.7															
	Jeffersonville	10,500		5	20.8							6		4						
Ill.	Chicago	500,000	101	178	18.5	18	9	22	8	2		6		2	4	2	1	1	55	4
	Aurora	14,500	1	2	7.1															1
	Jacksonville	15,000		2	6.9	1														
	Madison	8,500																		
Wis.	Milwaukee	127,000	11	33	13.5	6	2	1	1	1	1			2		3			7	4
	Bellevue	5,000																		
Minn.	Saint Paul	51,000	6	2	7.1										2					
Iowa	Burlington	26,000	3	9	18.0	1		1				1							1	
	Keokuk	15,800		2	6.6															
Mo.	Saint Louis	14,500	16	19	10.7	1		2	2	1	1	2		1	1			1	15	8
Kans.	Lawrence	8,500																		
Nebr.	Omaha	30,000	3	7	12.1									3	1	1				
Utah	Salt Lake City	25,000	4	7	14.6				5											6

The case of small-pox in New York arrived in steamer *Hapsburg* from Europe.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MAY 15, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	FEVER.												Whooping-cough.	All zymotic diseases.	Accidents.
					Consumption.	Croup.	Diarrhœal diseases.	Diphtheria.	Enteric.	Malaria.	Scarlat.	Yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.			
Cal.....San Francisco.....	205,000	26	78	13.3	11	.....	2	.....	.....	.....	.....	.....	5	.....	4	.....	1	4	1
.....Sacramento.....	25,000	3	8	16.6	1	.....	1	.....	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	1
.....Los Angeles.....	14,000	3	8	11.2	.....	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
.....Vallejo.....	7,500	1	1	6.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Totals.....	8,244,439	1,202	3,097	19.6	443	46	104	104	46	49	72	.....	399	74	31	7	33	408	127

NOTE.—Boston has 370,000 white, 5,000 colored; deaths, 131 white, 1 colored. Rate per 1,000, white 18.4, colored 10.4. Providence has 99,200 white, 3,800 colored; deaths, 34 white, 1 colored. Rate per 1,000, white 17.9, colored 13.7. Wilmington, Del., has 29,000 white, 6,000 colored; deaths, 11 white, 5 colored. Rate per 1,000, white 14.7, colored 15.4. Baltimore has 243,715 white, 36,255 colored; deaths, 106 white, 23 colored. Rate per 1,000, white 15.9, colored 21.3. District of Columbia has 114,000 white, 56,000 colored; deaths, 35 white, 33 colored. Rate per 1,000, white 16.0, colored 30.9. Norfolk has 14,900 white, 11,300 colored; deaths, 6 white, 4 colored. Rate per 1,000, white 21.0, colored 18.4. Richmond has 46,000 white, 34,000 colored; deaths, 16 white, 15 colored. Rate per 1,000, white 18.1, colored 23.0. Lynchburg has 16,000 white, 11,000 colored; deaths, 3 white, 4 colored. Rate per 1,000, white 16.8, colored 13.0. New Orleans has 18,230 white, 15,020 colored; deaths, 6 white, 7 colored. Rate per 1,000, white 17.1, colored 24.3. Augusta has 16,176 white, 10,824 colored; deaths, 7 white, 5 colored. Rate per 1,000, white 22.5, colored 24.1. Atlanta has 25,373 white, 16,175 colored; deaths, 6 white, 8 colored. Rate per 1,000, white 12.2, colored 25.8. Jacksonville, Fla., has 7,000 white, 5,000 colored; deaths, 2 white, 2 colored. Rate per 1,000, white 14.9, colored 20.8. Mobile has 28,000 white, 12,000 colored; deaths, 5 white, 12 colored. Rate per 1,000, white 9.3, colored 52.1. Selma has 3,082 white, 2,368 colored; deaths, 1 white, 1 colored. Rate per 1,000, white 16.8, colored 13.0. Savannah has 15,500 white, 35,000 colored; deaths, 81 white, 45 colored. Rate per 1,000, white 27.2, colored 42.6. Shreveport has 4,500 white, 5,000 colored; deaths, 3 white, 5 colored. Rate per 1,000, white 34.7, colored 52.1. Austin has 12,000 white, 4,000 colored; deaths, 3 white, 1 colored. Rate per 1,000, white 13.0, colored 13.0. Memphis has 16,703 white, 13,954 colored; deaths, 6 white, 10 colored. Rate per 1,000, white 18.7, colored 37.3. Nashville has 26,000 white, 11,000 colored; deaths, 7 white, 12 colored. Rate per 1,000, white 14.0, colored 56.3. Clarksville has 2,000 white, 3,000 colored; deaths, 1 white, 2 colored. Rate per 1,000, white 17.3, colored 34.6. Jacksonville, Ill., has 14,500 white, 500 colored; deaths, 1 white, 1 colored. Rate per 1,000, white 3.6, colored 10.3. Total white population, 1,391,381; deaths, 481; annual rate per 1,000, 18.0. Total colored population, 370,846; deaths, 220; annual rate per 1,000, 30.9.

The following reports, for the week ending May 15, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 4,000; no deaths. Brunswick, Ga., 4,000; diarrhœa 1, Chatham, Conn., 3,000; no deaths. East Haven, Conn., 1,300; enteric fever 1. Edgartown, Mass., 1,400; no deaths. Morgan City, La., 2,500; consumption 1. Murfreesborough, Tenn., 4,000; one death, under 5 years. Nantucket, Mass., 3,000; old age 1. Saint Augustine, Fla., 2,500; no deaths. San Diego, Cal., 3,000; consumption 1. Shelbyville, Tenn., 2,000; one death.

Total population, 30,500; deaths under 5 years, 1; total deaths, 7; annual rate per 1,000, 11.9.

The following reports, for the week ending May 15, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 5; under 5 years, 1; consumption 3, old age 1. Allegheny, Pa., 75,000; deaths, 19; under 5 years, 7; consumption 3, diphtheria 3, lung diseases 3, typhus fever 1. Bath, Me., 10,000; two deaths, under 5 years. Belfast, Me., 5,278; deaths, 2; under 5 years, 1; diphtheria 1, puerperal 1. Boulder, Colo., 3,500; two deaths, under 5 years; diphtheria 1, pneumonia 1. Brattleborough, Vt., 6,500; deaths, 2, from lung diseases. Calais, Me., 7,000; deaths, 2; consumption 1. Cambridge, N. Y., 1,850; no deaths. Carrollton, Miss., 600; diarrhœa 1. Chillicothe, Mo., 4,750; one death. Circleville, Ohio, 6,400; no deaths. Clinton, Mich., 1,300; puerperal 1. Columbus, Ga., 10,000; deaths, 6; under 5 years, 3; malarial fever 2. Corinth, Miss., 2,300; no deaths. Crystal Springs, Miss., 1,000; no deaths. Cumberland, Md., 12,000; deaths, 4; under 5 years, 2; consumption 2, diarrhœa 1. Dallas, Tex., 20,000; deaths, 5; under 5 years, 2; consumption 1, diarrhœa 1, enteric fever 1. Davenport, Iowa, 27,000; deaths, 11; under 5 years, 3; consumption 2, diarrhœa 1, diphtheria 3, pneumonia 1, measles 1. Decatur, Miss., 1,000; no deaths. Dunkirk, N. Y., 8,000; deaths, 5; enteric fever 1, pneumonia 1. Elgin, Ill., 8,500; deaths, 6; under 5 years, 3; diphtheria 1, croup 1, pneumonia 1, bronchitis 1. Fayette, Miss., 300; no deaths. Flint, Mich., 10,000; one death. Gunn City, Mo., 125; puerperal 1. Helena, Mont., 3,500; deaths, 2. Huntingdon, Pa., 4,500; no deaths. Huntington, Tenn., 50; no deaths. Indianola, Tex., 900; no deaths. Inka, Miss., 1,000; no deaths. Jefferson, Tex., 3,000; no deaths. Kenosha, Wis., 5,000; no deaths. Lausburgh, N. Y., 7,150; deaths, 2; croup 1, scarlet fever 1. Lebanon, Pa., 9,000; pneumonia 2. Little Falls, N. Y., 5,500; deaths, 3; under 5 years, 1; pneumonia 1. Louisiana, Mo., 5,200; deaths, 3; consumption 2, old age 1. Madison, Ind., 12,000; deaths, 3; under 5 years, 2; scarlet fever 2. Marquette, Mich., 4,000; deaths, 2; diarrhœa 1, whooping-cough 1. Meridian, Miss., 5,500; no deaths. Millidgeville, Ga., 4,000; diarrhœa 1. Mount Pleasant, Iowa, 5,000; no deaths. Muscatine, Iowa, 7,500; deaths, 2; malarial fever 1. Muskegon, Mich., 13,000; deaths, 4; under 5 years, 2; consumption

1, diphtheria 1, pneumonia 2. Natchez, Miss., 10,000; deaths, 2; pneumonia 1. Ocala, Fla., 1,000; no deaths. Painesville, Ohio, 5,000; no deaths. Phenixville, Pa., 6,000; deaths, 3; consumption 2. Pontotoc, Miss., 600; no deaths. Port Jervis, N. Y., 10,000; one death. Pulaski, Tenn., 2,100; no deaths. Ripley, Miss., 1,000; no deaths. Rock Island, Ill.; no population given; deaths, 4. Springfield, Ohio, 25,000; deaths, 10; under 5 years, 2; consumption 3, malarial fever 3, pneumonia 1. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 15,500; deaths, 4; under 5 years, 1. Tampa, Fla., 1,300; no deaths. Titusville, Fla., 9,000; one death. Tuscaloosa, Ala., 4,000; deaths, 2; under 5 years, 1, diarrhœa 1. Verona, Miss., 1,000; consumption 1. Victoria, Tex., 3,500; one death under 5 years, croup. Waco, Tex., 11,000; deaths, 7; under 5 years, 2; consumption 1, diarrhœa 3, old age 1. Waxahachie, Tex., 2,000; old age 1. Wesson, Miss., 2,000; no deaths. Winchester, Va., 5,500; no deaths. Winona, Minn., 10,000; consumption 1. Youngstown, Ohio, 17,000; deaths, 3; pneumonia 1, whooping-cough 1. Total population, 471,866; deaths under 5 years, 35; total deaths, 138; annual rate per 1,000, 15.2.

QUARANTINE OF THE BERMUDAS.

Bermuda, *alias* Somers' Island.

[L. S. M. R. M. 1,000, By his excellency Major-General Sir Robert M. Lafan, K. C. M. G., governor commander-in-chief in and over these islands, &c.

A PROCLAMATION.

Whereas information has reached me, the governor and commander-in-chief aforesaid, that yellow fever has appeared at the Bahama Islands, I do therefore, by virtue of the power and authority in me vested by an act of the legislature of these islands, entitled "An act to consolidate and amend the quarantine laws," and by and with the advice and consent of Her Majesty's council for these islands, I hereby issue this my proclamation, and do hereby make known that the said Bahama Islands are infected places within the meaning of the said act.

And I do hereby strictly charge and command all pilots going on board or taking charge of any vessel arriving at these islands from the aforesaid Bahama Islands forthwith to conduct the same to some one of the quarantine stations prescribed by the above-named act, there to remain until she shall be visited by the health officer, who shall thereupon give such orders and directions as the circumstances of each case may justify and to his said office may appertain.

Given under my hand and the great seal of these islands, this 13th day of May, A. D. 1880, and in the 43rd year of Her Majesty's reign. By his excellency's command.

R. E. WEBSTER,
Colonial Secretary.

God save the Queen.

National Board of Health

BULLETIN.

Vol. 1.]

WASHINGTON, D. C., SATURDAY, JUNE 5, 1880.

[No. 49.]

A STATE BOARD OF HEALTH FOR NEW YORK.

Dr. E. Harris writes that the bill to provide a State board of health for New York (see BULLETIN, No. 28) has become a law. The act as passed was so amended as to open the medical memberships to graduates of good standing from any State; also, to require the board to devise suitable regulations for the registration and record of deaths. The board is also charged with the general administration of laws and methods for the regulation and supervision of vital statistics.

The act provides for six commissioners, to be known as "State commissioners of health," and to hold that office for three years. Three of these commissioners are nominated by the governor and confirmed by the senate; the other three are selected and appointed by the governor from the health commissioners of the municipal boards. The members of the State board *ex officio* are the health officer of the port of New York, the attorney-general, and the director of the State survey. The names of the commissioners are as follows:

Hon. Erastus Brooks, John S. Delavan, M. D., and Elisha Harris, M. D., State commissioners for 3 years, nominated by the governor and confirmed by the senate.

APPOINTED BY THE GOVERNOR.

Prof. C. F. Chandler, of New York City board of health; E. M. Morse, M. D., of Rochester board of health; J. G. Hunt, M. D., of Utica board of health.

MEMBERS EX OFFICIO.

William M. Smith, M. D., health officer of the port of New York; Hon. Hamilton Ward, attorney-general of the State; James T. Gardner, C. E., director of the State survey.

ABSTRACTS FROM CONSULAR REPORTS.

BERMUDA.—United States Consul C. M. Allen, in his report of May 11, notes that the English yacht *Albida*, owned by F. W. Earle, arrived at the Bermuda quarantine station May 6, being 10 days from Nassau. She brought a clean bill of health, though yellow fever was known to exist at Nassau. Mr. Earle stated that the fever had prevailed there up to two weeks before his visit, which was only for 21 hours. The yacht was sent to the quarantine station at St. George's, Bermuda.

BORDEAUX, FRANCE.—United States Consul B. Gerrish reports for the month of April 421 deaths, from all causes, in a population of 215,140; rate, 23.4 per 1,000 per annum. There were 3 deaths from small-pox, 6 from typhoid fever, and 12 from other contagious diseases.

CEARA, BRAZIL.—United States Consul S. Morgan sends reports for the first three months of 1880. The town has usually about 25,000 population, but of late there have been about 30,000 indigent people from the interior, driven by famine to seek aid from the authorities. In March abundant rain began to fall for the first time in three years, and the country people are returning to cultivate their fields. The suffering and mortality in the province during the drought and famine have been fearful. In Ceara the deaths were 157 in January, 200 in February, and 237 in March; taking the highest estimate of population, 55,000, the corresponding death-rates were 40.8, 43.6, and 50.9 per 1,000 per annum. No contagious diseases are reported.

CURACAO.—United States Consul W. H. Faxon reports, under date of April 27, that this island enjoys entire exemption from malarial fevers, and that contagious diseases rarely appear, unless introduced from other places. Lying in the region of the northeast trade winds, the temperature is moderated by them, and varies with the seasons only a few degrees from a mean of 83°. The official report for the year 1879 gives the population as 23,988; the number of deaths being 432; the annual rate was 18.0 per 1,000. The births were 919; annual rate 38.3 per 1,000.

GHEENT, BELGIUM.—United States Consul S. Sparkman reports for the month of March 317 deaths from all causes in this city of 130,670

inhabitants; annual death-rate 29.1 per 1,000. The causes noted are consumption 55, acute lung diseases 50, diarrheal diseases 49, whooping-cough 10, typhoid fever 4, and scarlet fever 1.

HAVANA, CUBA.—Advises to May 21 state that during the week ending on that day there were 7 deaths from yellow fever, 3 of which were among the citizens and 1 in the military hospitals. The reduction in the number of cases is chiefly ascribed to frequent and heavy rains since May 4, and the prevalence of high winds with cool weather for two weeks past. Nine deaths from small-pox are reported for the week.

LYONS, FRANCE.—United States Consul B. F. Peixotto reports for the week ending April 24 a total of 137 deaths and 165 births; still-births, 13. For the week the death-rate was 39 and the birth-rate 25.1 per 1,000 per annum. During the month there were 98 more deaths than births. Of the 137 deaths 31 were from brain diseases, 25 from consumption, and 18 from acute lung diseases; these maladies are supposed to be favored in production by the sedentary occupation of silk-weaving, in which the people are chiefly engaged. The extremes of temperature in April were 40.3 and 73.8.

MALTA AND GOZO.—The United States consul forwards the *Malta Government Gazette*, containing the detailed report of mortality in those islands for the last two weeks of April. In Malta, population 134,110, there were 26.0, and in Gozo, population 18,028, there were 43.1 deaths per 1,000 per annum. For both islands the total number of deaths was 177 for the two weeks, and the death rate was 28.14. Among the causes were, measles 35, heart diseases 15, diarrheal diseases 13, acute lung diseases 19, consumption 5, cancer 1, and old age 8. There were 33 deaths among children, and 99 under 5 years of age; measles still very fatal among children.

MESSINA, SICILY.—United States Consul G. H. Owen reports for the month of February a total of 230 deaths in a population of 77,091, giving an annual death-rate of 35.8 per 1,000. The only causes stated are typhoid fever 9, and other contagious diseases 37. Diphtheria and lung diseases are noted as the prevailing diseases. The general sanitary condition is rated as "good."

NEWCASTLE-ON-TYNE, ENGLAND.—The consular report for the week ending May 1 gives a total of 60 deaths; the population being 118,000, the annual death-rate was 18.6 per 1,000. Scarlet fever is still epidemic, but only 3 deaths are noted from that disease, and the deaths under 5 years were only 27. The other causes of death are not given to explain the high death-rate in a city where "the natural drainage is excellent and the sanitary condition fairly good."

PANAMA, May 13.—United States Consul John M. Wilson sends a dispatch to the Department of State to contradict injurious reports which have circulated concerning the existence of epidemic yellow fever at Panama. May 8, Commander Howell, of the United States ship *Albatross*, sent through the consul the following telegram to the Secretary of the Navy: "Yellow fever bad in Panama; shall I take in stores at Callao?" This was sent in a letter to the consul from Punta Arenas, in which Commander Howell stated that owing to the prevalence of the fever he would not bring the *Albatross* to Panama, as he had intended. The consul states that according to the best information he can obtain there is not now (May 13) a single case of yellow fever in Panama; also, that there have been no deaths since April 17 from the disease which gave rise to the report of yellow fever being in the town. This disease was fatal to some five or six persons coming from the southward and from Central America. In the town only some of the poorest people, who could not command medical aid nor proper medicines and food, had died, and of these the victims were nearly all children. Some physicians called the disease yellow fever, but many others held that it was the malarial fever known as "Panama fever." The disease had never become epidemic, and seemed to have disappeared with the change of weather from the dry to the wet season.

SANTOS, BRAZIL.—United States Consul William T. Wright sends weekly reports from March 27 to April 21. The number of deaths is not stated, but the city and harbor are reported free from contagious diseases. Bad drainage, and a mean temperature ranging from 76° to 82°, had produced much malarial fever.

SHEFFIELD, ENGLAND.—United States Consul C. B. Webster sends a report for the week ending May 1, showing 114 deaths and 205 births in a population of 304,338; annual death-rate 19.5, and birth-rate 33.6 per 1,000. Of the 114 deaths, 23 were under one year and 26 over 60 years of age. The only zymotic diseases noted were, typhoid fever 5, measles 2, scarlet fever 2, and whooping-cough 2.

SINGAPORE.—United States Consul A. G. Stnder reports, under date of April 19, that this city and district remain free from any epidemic, infectious, or contagious disease.

ST. PETERSBURG, RUSSIA.—United States Consul W. H. Edwards reports an increase in the mortality of this city lately, consumption and typhus fever being prominent among the causes of death. During the week ending April 24, there were 805 deaths in a population of 667,000, being at an annual rate of 62.9 per 1,000. The proportion of males was excessive, being 537 to 268 females. Among them from 20 to 30 years of age there were 125 deaths, and 100 among men between 40 and 50 years. The deaths from consumption were 126, or 15.6 of the total mortality; from typhus fever there were 139 deaths, or 24.7 per cent.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

JAPAN.—Dr. Thomas H. Streets, U. S. N., stationed at the port of Kanagawa, sends a report of contagious diseases in that district for January and February. In January, there were of typhoid fever 10 cases and 1 death; typhus fever, 1 case, fatal; other contagious diseases, 2 cases and 1 death. In February, small-pox 2 cases, no deaths; typhoid fever, 8 cases and 2 deaths; other diseases, 9 cases and 7 deaths. The small-pox was brought from China by the British steamer *Escombia*, but vaccination is now so generally practiced at Kanagawa that there is no fear of the disease becoming epidemic.

MARSHALL, TEX.—Dr. J. H. Pope writes as follows, under date of May 23:

I inclose a copy of an ordinance recently passed by the common council of Marshall, requiring burial permits, and to go into effect June 1, 1880; also, an amended ordinance, requiring all cases of contagious and infectious diseases to be reported to the authorities.

There are some difficulties in the way of a rigid enforcement of these ordinances, but I hope, in time, they will be overcome. We have a population of less than 7,000, scattered over an area of three miles square. A large proportion of this population is colored; many of them have no physician when they are sick; they often bury their dead with no one present but the immediate family, the coffin being made and the grave dug by some of the family or a near neighbor. This is especially the case when the deceased is an infant. The ordinary methods of publishing the city ordinances are practically no notice to a majority of the colored population, as they cannot read. We hope, however, by the efforts of the physicians during their practice amongst these people, and by the co-operation of the colored preachers, to have the requirements of the ordinance concerning burial permits sufficiently advertised to make its operations thorough.

If the law proves to be efficient, I hope to have regular mortuary reports made by our authorities to the National Board of Health. Marshall has no city physician nor board of health. A sanitary board is organized by the mayor appointing three members of the common council and the county medical society appointing three of its members, the mayor acting as chairman of the board. The function of the board is to advise the city authorities in matters pertaining to the health of the city.

NEW YORK CITY.—Dr. John T. Nagle submits the following report of mortality in New York for the first quarter of the year 1880:

The number of deaths in New York City during the three months ending March 31, 1880, was 6,514, which is equivalent to an annual rate of 24.51 deaths to every 1,000 of the population, estimated at 1,141,941. Of the total mortality, 3,587 were males, 3,227 females, 122 colored, 1,453 were under 1, 2,127 were under 2, and 2,760 were under 5 years of age. Of the mortality under 5 years of age, 1,507 were males, and 1,253 females. The deaths from zymotic diseases, 1,142; from constitutional diseases, 1,731; from local diseases, 2,962; from developmental diseases, 455; and 214 were from violence. The highest number of deaths from any single disease during the quarter was from phthisis pulmonalis, which caused 1,159 deaths; 775 deaths were attributed to pneumonia, 305 to bronchitis, 230 to diseases of the heart, 300 to Bright's disease and nephritis, 147 to diseases of the nervous system, 110 to puerperal diseases, 128 to diarrhoeal diseases, of which 94 were under 5 years of age, 163 to cancers, 122 to marasmus and scrofula, 179 to hydrocephalus and tubercular meningitis, and 26 to suicide. The highest number of deaths from

any disease of the zymotic class was from measles, which caused 261 deaths; diphtheria following with 214; croup, 212; scarlatina, 92; whooping cough, 82; typhoid fever, 44; and malarial fever, 84.

The number of cases of measles reported during the quarter was 2,402; scarlatina, 623; diphtheria, 523; typhoid fever, 74; and cerebro-spinal fever, 46. This shows that there was 1 death to every 9.20 cases of measles reported; 1 death to every 6.77 cases of scarlatina reported; 1 death to every 2.44 cases of diphtheria reported; 1 death to every 1.68 cases of typhoid fever reported; and 1 death to every 1.35 cases of cerebro-spinal fever reported. The average age of those who died during the quarter from measles was 2 years, 3 months, 27 days; scarlatina, 4 years, 1 month, 25 days; diphtheria, 3 years, 8 months, 25 days; typhoid fever, 31 years, 8 months, 14 days; cerebro-spinal fever, 10 years, 2 months, 25 days; membranous croup, 2 years, 10 months, 7 days; whooping-cough, 1 year, 2 months, 12 days; and malarial fever, 7 years, 9 months, 5 days. The mortality for the first quarter of this year compared with the corresponding three months of the year 1879 showed an increase of 256 deaths from measles, 72 from membranous croup, 9 from typhoid fever, and a decrease of 638 deaths from scarlatina, 10 from diphtheria, and 137 from whooping-cough; compared with the preceding quarter (ending December 31, 1879), it shows an increase of 143 deaths from measles and 11 from whooping-cough, and a decrease of 1 death from small-pox, 15 from scarlatina, 4 from diphtheria, 15 from croup, 1 from typhus fever, and 12 from typhoid fever. The total mortality for the first three months of this year compares with the corresponding quarter of the past 10 years as follows:

Three months ending March 31 (first quarter).—

1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
6,553	7,510	6,967	6,532	7,842	7,633	6,002	6,064	7,576	6,814

Report of contagious diseases; cases reported for the quarter ending March 31, 1880:

Typhus fever, 0; typhoid fever, 74; scarlet fever, 623; cerebro-spinal meningitis, 46; measles, 2,402; diphtheria, 523; small-pox, 0.

Comparative table of mortality from the principal causes of death in the first quarter of the year 1880, with the corresponding quarter of the preceding five years.

Causes of death.	1880.	1875.	1876.	1877.	1878.	1879.	Total for five years preceding 1880.	Average for five years preceding 1880.
Total deaths from all causes	6,814	7,842	7,633	6,002	6,064	7,576	35,717	7,143.4
Total zymotic diseases	1,412	1,652	1,265	1,205	1,456	1,816	8,805	1,761.0
Total constitutional diseases	1,731	1,662	1,618	1,461	1,680	1,691	8,670	1,734.0
Total local diseases	2,962	3,200	3,176	2,734	2,927	3,355	15,433	3,086.6
Total developmental diseases	475	500	454	411	457	530	2,352	470.4
Deaths by violence	244	257	230	183	194	204	1,058	211.6
Small-pox	372	194	5	1	1	1	372	74.4
Scarlatina	261	18	172	9	128	5	532	106.4
Measles	92	186	245	293	317	730	1,771	354.2
Diphtheria	214	608	725	226	331	224	1,114	222.8
Membranous croup	212	254	194	136	195	140	919	183.8
Whooping-cough	82	132	139	92	63	219	645	129.0
Typhus fever	0	3	5	4	3	1	16	3.2
Typhoid fever	44	61	56	41	33	35	226	45.2
Puerperal diseases	110	135	97	103	89	121	545	109.0
Diarrhoeal diseases of children under five years	94	104	81	88	87	71	431	86.2
Diarrhoeal diseases of all ages	128	159	118	118	122	127	644	128.8
Alcoholism	52	57	31	26	29	46	189	37.8
Cancer	165	111	108	121	142	174	613	122.6
Phthisis pulmonalis	1,180	1,184	1,214	954	1,051	1,215	5,742	1,148.4
Bronchitis	268	396	437	371	391	434	2,029	405.8
Pneumonia	775	1,071	946	733	833	922	4,525	905.0
Heart diseases	320	260	246	244	294	373	1,417	283.4
Marasmus—tubercles mesenterical and scrofula	122	111	110	88	105	91	515	103.0
Hydrocephalus and tubercular meningitis	179	169	201	138	172	188	863	172.6
Meningitis and encephalitis	150	166	183	160	155	177	851	169.9
Convulsions	163	152	206	142	153	196	818	163.6
Direct effect of solar heat	151	104	106	100	127	122	550	110.8
Apoplexy	647	624	649	567	601	606	3,108	621.6
Bright's disease and nephritis	300	296	327	270	282	376	1,551	310.2
Deaths by suicide	26	31	32	23	33	29	148	29.6
Deaths by drowning	25	31	20	10	21	10	122	24.4
Deaths in institutions	1,135	1,313	1,240	1,065	1,016	119	5,586	1,117.6
Deaths of persons seventy years old and over	507	516	508	435	438	609	2,548	509.2
Deaths of children under one year of age	1,430	1,680	1,680	1,325	1,426	1,525	7,633	1,527.0
Deaths of children under two years of age	2,127	2,421	2,393	1,803	2,102	1,851	10,482	2,096.6
Deaths of children under five years of age	2,760	3,258	3,553	2,406	2,882	3,097	15,197	3,039.4

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MAY 22, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

		Population.	Deaths under 5 years.	Total number of deaths. Representing an annual death-rate per 1,000 of—	Consumption.	Croup.	Diarrheal diseases.	Diphtheria.	Enteric.	Malarial.	Scarlet.	Yellow.	Lung disease, acute.	Meninges.	Pneumonal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents.
State and cities.																			
Me.	Portland.....	36,400	3	7.1	1						2								
N.H.	Concord.....	14,000	3	21.4	1														
Mass.	Boston.....	375,000	46	14.4	34	1	1	11	1				16		3		1	12	5
	Cambridge.....	50,400	8	15.7	1								3						
	New Bedford.....	25,400	3	11.8	1		1				1								
	Newburyport.....	15,800	3	19.0															
	Marblehead.....	7,500	2	26.7				2					1						
	Fall River.....	48,600	19	20.3															
	Plymouth.....	46,334	1	8.2															
	Lawrence.....	40,000	6	15.0															
	Worcester.....	32,000	11	22.2		1	3				1		3		1				
	Lowell.....	54,000	8	26.5				1			2		4		1			5	1
	Lynn.....	57,000	4	16.2		1		3					7		1				
	Sauckton.....	12,000	1	8.3															
	Holyoke.....	20,000	4	20.8				1						1					
	Milford.....	10,000		20.8				1											
	Chicopee.....	11,000		18.9		1													
	Somerville.....	25,500	7	27.3															
	Springfield.....	31,500	5	12.9									1					1	
	Fitchburg.....	12,600	3	28.9		1							3						
R.I.	Providence.....	103,000	14	25.3				1	2	2	5		3		1		1	12	1
Conn.	New Haven.....	60,000	17	28.7									4						
	New Britain.....	12,000		8.7		1			1				3						
Vt.	Burlington.....	16,500		6.3		1													
N.Y.	New York.....	1,109,820	274	25.4	71	17	19	27	4	7	13		106	9	10		6	129	40
	Schenectady.....	364,418	82	22.5	19	5	3	11	2	5	7		1	6	6		1	52	12
	Yonkers.....	20,000	2	15.6															
	Poughkeepsie.....	21,000	2	9.2															
	Newburgh.....	17,800	1	5.6															
	Brooklyn.....	7,500	1	13.8		1	1						2	1					
	Utica.....	35,000	1	13.4		3									1				
	Buffalo.....	170,000	14	12.2				3		2	1	1	3				1	8	1
	Seneca Falls.....	6,300		24.8															
	Watertown.....	12,000	3	15.0															
N.J.	Hudson County.....	209,000	32	19.2	10	2	1	1	1	7			19		1			17	2
	Newark.....	125,000	10	16.7	4			1		1							3		
Pa.	Philadelphia.....	901,350	163	19.5	51	8	6	7	8		11		12	1	1	3	3	1	1
	Pittsburgh.....	150,000	25	29.5	5			1	4	3	1	4		5	3	1		1	7
Md.	Baltimore.....	210,000	80	21.9	2		2	2	1								5	31	2
	City of Columbia.....	170,000	35	25.4	20	1	3	2	2	1			10		2		1	10	2
Va.	Norfolk.....	26,200	10	35.8	2		2				1							5	
	Richmond.....	80,000	17	26.7	9			3			1							10	
N.C.	Wilmington.....	21,000	6	24.3	2														
S.C.	Charleston.....	37,000	8	21.6	1			1		1			1				2		1
Ga.	Savannah.....	33,250	8	26.6	1	1													
	Augusta.....	27,000	9	33.3				10		1			2						
	Atlanta.....	41,748	13	30.1	2			1					4						1
Fla.	Jacksonville.....	12,000		14.1	1														
Ala.	Selma.....	7,070	3	29.5						1									
Miss.	Vicksburg.....	15,000	1	17.3						1									
La.	New Orleans.....	135,000	85	35.0	15		26	1	4				6	13			3		
Tex.	Shreveport.....	9,500	1	16.1							1								
	Austin.....	16,000	3	19.5	1		1										1		1
Ark.	Little Rock.....	22,000	4	27.2	2					1				1			1		1
Tenn.	Nashville.....	37,000	5	11.2	2								1				1		1
Ky.	Louisville.....	175,000	40	22.5	2			2		2			3				1	6	1
W.Va.	Wheeling.....	25,500	11	25.5	3			1							1		5	22	1
Ohio.	Cincinnati.....	200,000	45	16.8	12		8	2					13	7			4	32	5
	Cleveland.....	175,000		16.1															
	Dayton.....	39,000	4	29.0				1					6					1	
	Columbia.....	5,500		16.1															
Mich.	Lansing.....	10,000		16.1				2											
Ind.	Evansville.....	40,000	6	23.1	3	1			3				3	3					1
	Indianapolis.....	100,000	15	20.1	2		2						4				1	9	3
	Richmond.....	14,000	1	7.1															
	Jedersonsville.....	10,500																	
Ill.	Chicago.....	500,000	93	18.1	16	8	9	13	2	1	7		21	2	2	1	1	53	6
	Peoria.....	10,000	1	10.1															
	Jacksonville.....	15,000		10.1											1				
	Aurora.....	11,550		10.7															
	Moline.....	8,500		18.1															
	Elgin.....	8,500		12.2															
Wis.	Milwaukee.....	127,000	19	16.8	1	1				1	1		4				0	1	
	Beloit.....	5,000		10.1															
Minn.	Saint Paul.....	51,000	4	12.2	1														
Iowa.	Burlington.....	26,000	2	7.1															
	Dubuque.....	70,000		14.1		1												2	
Mo.	Saint Louis.....	500,000	51	12.1	15	1		1	1	3			13	3			2	26	6
	Sedalia.....	12,000		17.3											1				
	Osaka.....	4,500		11.1															
Kans.	Lawrence.....	30,000	2	10.1															
Nebr.	Omaha.....	25,000	1	8.2															
Utah.	Salt Lake City.....	25,000	1	8.2															

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MAY 22, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Croup.	Diarrhoeal diseases.	Diphtheria.	FEVER.										Whooping-cough.	All zymotic diseases.	Accidents.
									Etiologic.	Malarial.	Scarlet.	Yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.					
Cal.....San Francisco.....	305,000	20	69	11.8	8	.....	1	.....	.....	.....	.....	.....	5	.....	1	.....	.....	.....	1	4	1
.....Sacramento.....	25,000	1	16	14.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....Los Angeles.....	14,000	.....	.....	7.4	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
.....Vallejo.....	7,500	2	20	26.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	8,318,660	1,279	3,177	19.9	444	50	159	105	43	33	81	.....	249	61	29	4	43	510	107	.....	.....

NOTE.—Boston has 370,000 white, 5,000 colored; deaths, 140 white, 4 colored. Rate per 1,000, white 19.7, colored 41.7. Providence has 99,200 white, 3,800 colored deaths, 48 white, 2 colored. Rate per 1,000, white 25.2, colored 57.4. St. Louis has 7,250 white, 230 colored; deaths, 4 white, 1 colored. Rate per 1,000, white 28.8 colored 208.7. Baltimore has 343,715 white, 56,285 colored; deaths, 133 white, 35 colored. Rate per 1,000, white 29.0 colored 32.4. District of Columbia has 114,000 white, 56,000 colored; deaths, 37 white, 46 colored. Rate per 1,000, white 16.9 colored 43.1. Norfolk has 14,900 white, 11,300 colored; deaths, 10 white, 8 colored. Rate per 1,000, white 35.0 colored 36.9. Richmond has 49,700 white, 34,000 colored; deaths, 15 white, 26 colored. Rate per 1,000, white 17.0 colored 39.9. Lynchburg has 10,000 white, 11,000 colored; deaths, 4 white, 5 colored. Rate per 1,000, white 20.8 colored 25.7. Wilmington, N. C., has 6,714 white, 10,286 colored; deaths, 1 white, 7 colored. Rate per 1,000, white 7.7 colored 25.5. Charleston has 25,000 white, 32,000 colored; deaths, 4 white, 19 colored. Rate per 1,000, white 8.3 colored 20.9. Savannah has 18,250 white, 15,020 colored; deaths, 8 white, 9 colored. Rate per 1,000, white 22.8 colored 38.2. Augusta has 16,176 white, 10,824 colored; deaths, 10 white, 11 colored. Rate per 1,000, white 32.2 colored 53.0. Atlanta has 25,573 white, 16,175 colored; deaths, 7 white, 17 colored. Rate per 1,000, white 14.3 colored 51.7. Solina has 5,122 white, 2,338 colored; deaths, 1 white, 2 colored. Rate per 1,000, white 16.9 colored 26.1. New Orleans has 155,000 white, 35,000 colored; deaths, 86 white, 55 colored. Rate per 1,000, white 28.9 colored 52.1. Shreveport has 4,500 white, 5,000 colored; deaths, 3 colored. Rate in table. Austin has 12,000 white, 4,000 colored; deaths, 2 white, 4 colored. Rate per 1,000, white 8.7 colored 52.1. Nashville has 26,000 white, 10,000 colored; deaths, 11 white, 5 colored. Rate per 1,000, white 22.0 colored 23.7. Louisville has 153,125 white, 21,875 colored; deaths, 58 white, 17 colored. Rate per 1,000, white 19.7 colored 40.5. Wheeling has 28,000 white, 9,000 colored; deaths, 22 white, 1 colored. Rate per 1,000, white 40.1 colored 57.9. Total white population, 1,478,865; total deaths, 601; annual rate per 1,000, 21.2. Total colored population, 323,417; total deaths, 277; annual rate per 1,000, 40.9.

The following reports, for the week ending May 22, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 4,000; one death; old age. Brunswick, Ga., 4,000; no deaths. Charham, Conn., 3,000; deaths, 2; under 5 years, 1; East Haven, Conn., 1,200; deaths, 2; consumption 1, malarial fever 1. Edgartown, Mass., 1,400; one death. Morgan City, La., 2,500; no deaths. Murrefreesborough, Tenn., 3,500; one death; under 5 years. Nantucket, Mass., 3,000; deaths, 2; lung disease 1. Saint Augustine, Fla., 2,500; deaths, 2; under 5 years, 1; consumption 1, pneumonia 1. Shelbyville, Tenn., 2,000; no deaths. Total population, 27,100; deaths under 5 years, 3; total deaths, 71; annual rate per 1,000, 22.4.

The following reports, for the week ending May 22, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 5; under 5 years, 3; consumption 2, croup 1. Allegheny, Pa., 75,000; deaths, 11; under 5 years, 4; consumption 1. Bath, Me., 10,000; deaths, 4; under 5 years, 3; pneumonia 1, scarlet fever 2. Battle Creek, Mich., 7,500; one death. Belfast, Me., 5,278; deaths, 3; consumption 1. Boulder, Colo., 3,500; no deaths. Brattleborough, Vt., 6,500; consumption 1. Calais, Me., 7,000; consumption 2. Cambridge, N. Y., 1,550; deaths, 3; consumption 2, puerperal 1. Carrollton, Miss., 600; no deaths. Circleville, Ohio, 6,400; deaths, 3; consumption 1, diarrhea 1. Clinton, Mich., 1,200; no deaths. Columbus, Ga., 10,000; deaths, 6; under 5 years, 3; malarial fever 1, pneumonia 1. Corinth, Miss., 2,300; no deaths. Crystal Springs, Miss., 1,000; no deaths. Cumberland, Md., 12,000; deaths, 3; under 5 years, 1; consumption 2. Dallas, Tex., 20,000; deaths, 4; under 5 years, 1; consumption 1, diarrhea 2. Davenport, Iowa, 27,000; deaths, 11; under 5 years, 2; malarial fevers 3. Decatur, Miss., 1,000; no deaths. Fayette, Miss., 300; no deaths. Flint, Mich., 11,000; deaths, 8; under 5 years, 4; lung diseases 3. Helena, Mont., 3,700; deaths, 2; consumption 1. Huntington, Pa., 4,500; no deaths. Huntington, Tenn., 850; no deaths. Indianola, Tex., 900; no deaths. Inka, Miss., 1,000; no deaths. Jefferson, Texas, 3,000; deaths, 3; under 5 years, 1; consumption 1, enteric fever 1, malarial fever 1. Kenosha, Wis., 5,000; consumption 1. Lansingburgh, N. Y., 7,150; pneumonia 1. Lebanon, Pa., 9,000; no deaths. Little Falls, N. Y., 5,000; deaths, 2; consumption 1. Louisiana, Mo., 5,200; no deaths. Madison, Ind., 12,000; deaths, 2; under 5 years, 1. Millidgeville, Ga., 4,000; one death. Monmouth, Ill., 6,000; deaths, 5; under 5 years, 1; consumption 2, croup 1. Muscatine, Iowa, 7,500; deaths, 6; under 5 years, 2; malarial fever 1, scarlet fever 1, lung diseases 2. Mt. Pleasant, Iowa, 5,000; no deaths. Natchez, Miss., 10,000; deaths, 2; malarial fever 1. Ocala, Fla., 1,000; no deaths. Okolona, Miss., 3,000; no deaths. Oskosh, Wis., 1,000; one death; under 5 years. Painesville, Ohio, 5,000; one death. Phoenixville, Pa., 6,000; no deaths. Pleasant

Hill, Miss., 250; no deaths. Pomeroy, Ohio, 6,200; deaths, 4; consumption 3, measles 1. Port Gibson, Miss., 1,400; no deaths. Port Jervis, N. Y., 10,000; deaths, 2; under 5 years, 1. Pulaski, Tenn., 2,100; deaths, 3; consumption 1, old age 1. Ripley, Miss., 1,000; consumption 1. Rock Island, Ill., deaths, 2; no population given. Rockland, Me., 7,000; deaths, 2; diphtheria 1. Santa Cruz, Cal., 5,000; no deaths. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; deaths 6; under 5 years, 1. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; one death. Verona, Miss., 1,000; no deaths. Victoria, Tex., 3,500; deaths, 2; under 5 years, 1. Waxahachie, Tex., 2,000; no deaths. Winchester, Va., 5,500; deaths, 4; under 5 years, 1; consumption 1, diphtheria 1, old age 1. Wesson, Miss., 2,000; no deaths. Youngstown, Ohio, 17,000; deaths, 3; under 5 years, 1; pneumonia 1. Total population, 440,708; deaths under 5 years, 33; total deaths, 120; annual rate per 1,000, 14.2.

MISCELLANEOUS.

HOBART TOWN, TASMANIA.—The report of E. Swarbeck Hall for the month of February gives a total of 62 deaths, of which two were accidental, and 21 under 5 years of age. Among the causes of death were: diphtheria, 18; consumption, 67; cancers, 5; typhoid fever, 2. One death from *glanders* is noted, and the history shows that the man was employed in a stable where a horse had been recently affected with the disease.

MONTEVIDEO, URUGUAY.—United States Consul A. L. Russell reports 223 deaths during the month of March, the population being 111,500; the annual death-rate was 24 per 1,000. Ten deaths from typhoid fever are noted, but none from any other zymotic disease.

ST. JOHN, NEW BRUNSWICK.—United States Consul D. B. Warner reports 73 deaths during the month of April, but gives neither the causes of death nor the population.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NATIONAL BOARD OF HEALTH rooms are at 1410 G street, northwest.

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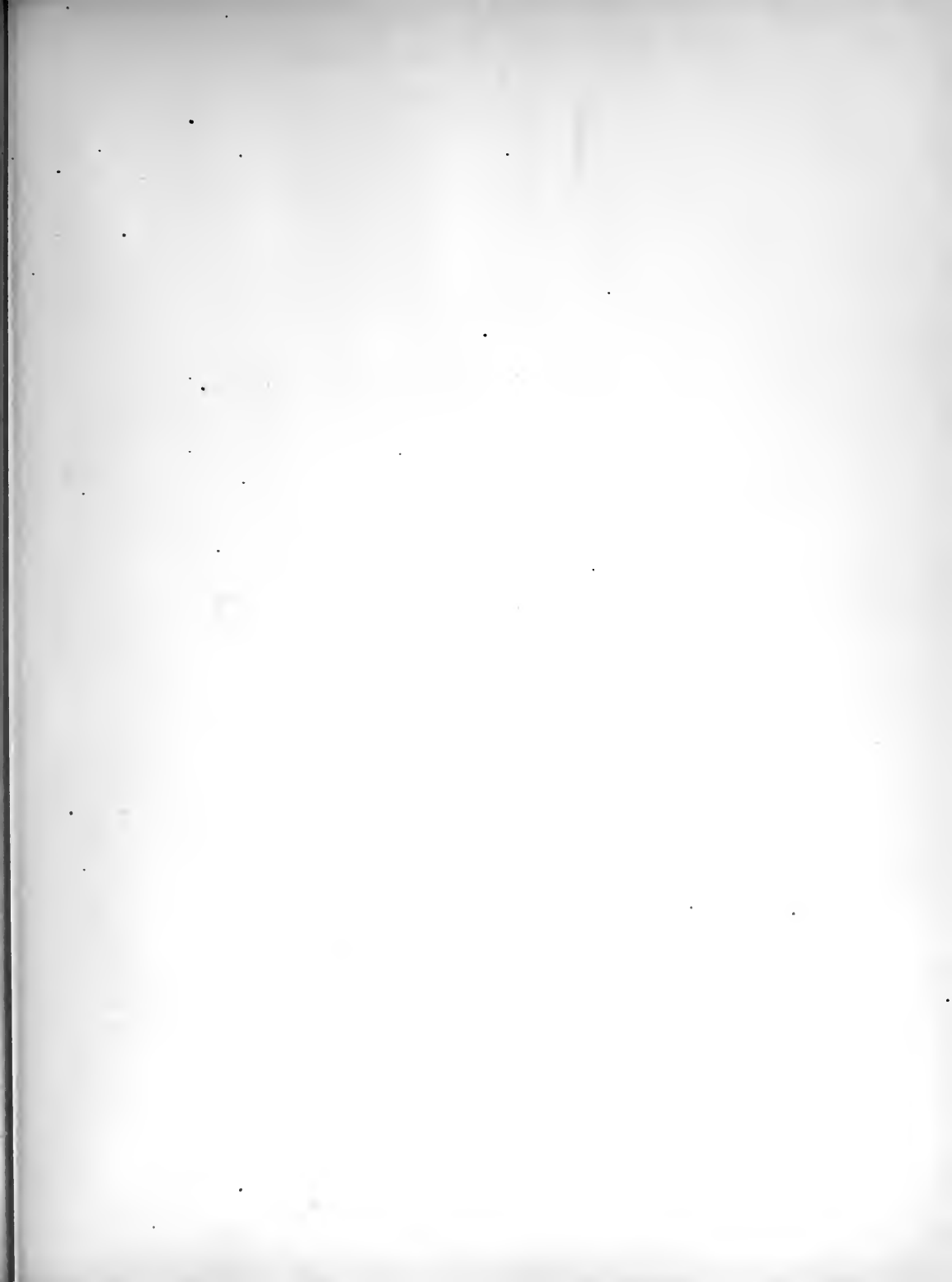
MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

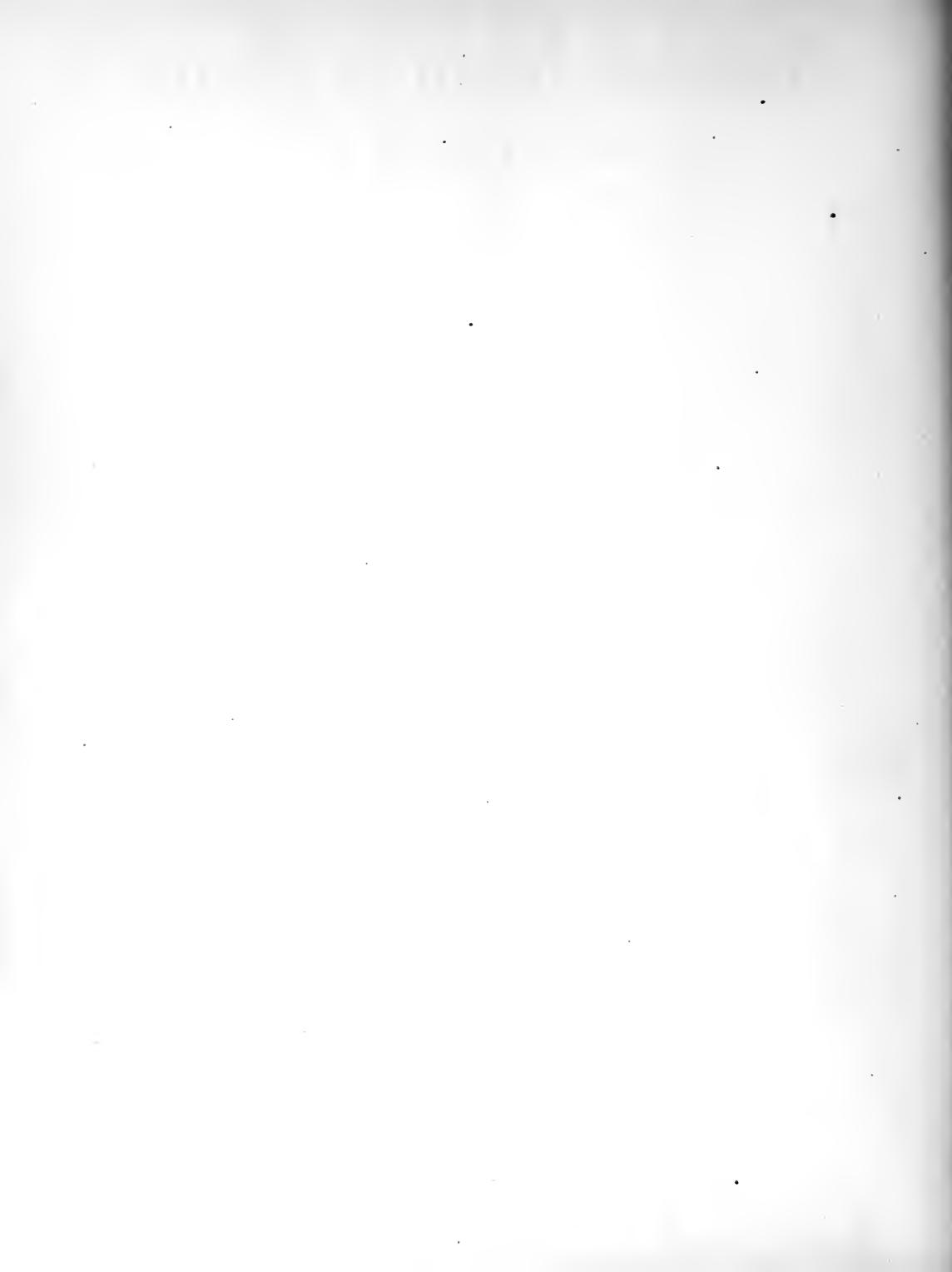
Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.			
1880.																		
Vancouver's Island.	Victoria.	5,000	May 15	42	20.9								1					52
Canada.	Kingston.	16,000	May 22	4	13.1													60.
Bermuda.	Hamilton.	14,867	May 25	1	6.5													70.
Cuba.	Havana.	185,437	May 15	131	35.0					9	16		3					74.
Guadeloupe.	Point a Pitre.	22,919	May 1	17	38.9													80
do.	do.	22,919	May 8	9	20.5													81
Mauritius.	Port Louis.	64,821	Mar. 28	40	32.2													78.
do.	do.	64,821	Apr. 4	48	38.7													78.
do.	do.	64,821	Apr. 11	48	38.7													77.
do.	do.	64,821	Apr. 18	39	31.4													76.
U. S. of Colombia.	Colon.	3,000	May 15	1	15.4													82
Brazil.	Pernambuco.	126,575	Apr. 11	71	29.3			1		3			1					
do.	do.	126,575	Apr. 18	73	30.1					3			3					
do.	do.	126,575	Apr. 25	67	27.6					1			7		1			
do.	do.	126,575	May 2	82	33.8													
do.	do.	135,000	Apr. 10	71	29.2					2								
do.	do.	135,000	Apr. 17	82	31.4					3					1			
do.	do.	135,000	Apr. 24	79	30.3					2								
do.	do.	135,000	May 1	83	31.8					1								
Azores.	Faial, Horta.	7,630	Apr. 3	1	13.7													63
do.	do.	7,630	Apr. 10	2	13.7													65
do.	do.	7,630	Apr. 17	1	6.8													64
Teneriffe.	Santa Cruz.	16,610	May 1	12	37.8													
Scotland.	Edinburgh.	38,470	May 15	25	32.2								14	2		10	1	46.5
do.	Dundee.	153,000	May 8	84	28.3								3		1	71		47.6
do.	Glasgow.	509,598	May 8	303	26.8									18				52
England.	Bristol and Clifton.	213,500	May 8	103	25.2													41
do.	Liverpool.	290,000	May 8	146	25.2							2	1	11	2	40		48
do.	London.	3,664,149	May 8	1416	26.2					10				13	5			192
do.	Newcastle.	148,000	May 8	48	16.7													46
do.	Sheffield.	364,938	May 8	147	25.2													44.
Wales.	Cardiff.	83,000	May 15	20	16.6													44.
France.	Havre.	92,068	May 8	50	28.3													44.
do.	Rouen.	104,902	May 15	77	38.3													97
do.	Paris.	1,988,806	May 6	144	29.9							48		34				120
do.	do.	1,988,806	May 13	194	31.6							71		33				147.8
Switzerland.	Zurich.	22,103	May 8	10	23.6								1					6
do.	Geneva.	52,077	May 8	19	19.0													1
Holland.	Amsterdam.	316,952	May 8	187	30.8										1			50
Germany.	Berlin.	1,087,500	May 1	524	25.1								3	1		148		47.8
do.	Breslau.	297,000	May 1	176	33.2											13		46.
do.	Brunswick.	74,000	May 8	31	21.8									3	1			69
do.	Frankfort-on-the-Main.	128,000	Apr. 30	55	22.4													70
do.	do.	128,000	May 8	66	26.9													70
do.	Mannheim.	50,500	May 8	19	16.6													54
do.	do.	50,500	May 15	28	28.9													58
Bavaria.	Munich.	100,000	May 1	60	31.3													45.5
Saxony.	Dresden.	218,000	May 1	99	23.7								1	1			9	45.7
do.	do.	218,000	May 8	109	26.1											12		51
do.	Leipsic.	150,836	May 15	91	31.4										1			62
do.	Chebuitz.	90,617	May 1	55	31.9													2
Belgium.	Brussels.	406,678	May 8	167	21.5						1			1				46
do.	Antwerp.	173,643	May 1	130	39.1						54	30	17	2				50
do.	do.	173,643	May 8	102	30.3						77	26	15	2				57.2
do.	do.	173,643	May 15	110	33.0						106	43	11	1		1		47.8
Denmark.	Copenhagen.	255,254	May 4	100	22.0													30
Italy.	Torino.	147,000	May 15	17	29.0									1				40
do.	Genoa.	185,000	May 15	107	30.3													54
Austria.	Vienna.	746,243	May 8	486	29.2								13		3		21	40
Hungary.	Buda-Pesth.	327,788	Apr. 17	239	42.0											1		47
do.	do.	327,788	Apr. 24	240	39.9										2			60
Russian Poland.	Warsaw.	357,160	Apr. 24	185	28.7													47
do.	do.	357,160	May 1	158	24.5													40
Sweden.	Stockholm.	169,429	May 1	86	27.8												8	82.2
Norway.	Christiania.	110,801	May 1	42	18.7													72
Cape Colony.	Cape Town.	25,000	Apr. 12	24	35.8													70
do.	do.	25,000	Apr. 19	24	35.8													66
do.	do.	25,000	Apr. 26	22	32.8													82.2
Seychelle Islands.	Mahé.	10,000	Mar. 13	2	11.7													82
do.	do.	10,000	Mar. 20	3	17.5													81.
do.	do.	10,000	Apr. 27	4	23.4													77
do.	do.	10,000	Apr. 3	3	17.5													83.
do.	do.	10,000	Apr. 10	3	17.5													82

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.





National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JUNE 12, 1880.

[No. 50.]

NATIONAL BOARD OF HEALTH.

MISSISSIPPI RIVER INSPECTION SERVICE.

In accordance with the recommendations of the various State boards of health and of the Sanitary Council of the Mississippi Valley, the National Board of Health has established its river inspection service for the purpose of preventing the introduction and spread of epidemic, contagious, or infectious diseases along the Mississippi River, and of avoiding unnecessary obstruction to travel and traffic during the prevalence of such diseases.

The experience of 1879 showed that such inspections secured an improved sanitary condition of steamboats, barges, and other vessels; created in threatened communities such a degree of confidence as led to the abandonment of conflicting and onerous quarantine regulations; and prevented the spread of disease along the river, although yellow fever existed at several places in the valley.

The service provides a continuous sanitary supervision of vessels in transit on the Mississippi River, between New Orleans and Cairo, during the summer months; such supervision being exercised through a corps of inspectors acting under uniform rules and regulations. The equipment of the service embraces—

A. Three intermediate inspecting stations, located as follows:

No. 1.—Near Vicksburg, Miss.

No. 2.—Near Memphis, Tenn.

No. 3.—Near Cairo, Ill.

These stations are designated by yellow flags during the day, and by yellow lights at night, and are provided with—

B. Steam-launches and yawls for the use of the inspectors in boarding boats arriving in the vicinity of their stations; and with—

C. Suitable locations (1) for the cleansing, disinfection, and other necessary treatment of *foul* or *infected* boats; (2) for the hospital treatment of the sick from such boats; and (3) for the temporary accommodation of other persons from such boats. There is also—

D. A sanitary patrol boat for the use of the chief inspector in supervising the conduct of the service generally, and for the prompt conveyance of relief to isolated communities during epidemics.

During the last inspection season it was found possible to conduct this service with little or no delay, expense, or annoyance to river travel and traffic. With added experience, and a better equipment, it is believed that these inspections will prove of still greater utility in protecting the public health and in promoting commercial intercourse.

CODE A.

GENERAL RULES AND REGULATIONS

To be enforced in the absence of cholera or yellow fever in the Mississippi Valley.

1. From and after May 1 of each year, and until the close of the inspection season as announced by the *National Board of Health*, all steamboats carrying passengers or freight, and all tugs, towboats, and barges, departing from the port of New Orleans for Vicksburg or above, should obtain a certificate of inspection (*Form 1*). The Inspector of the Mississippi River Service, stationed at New Orleans, shall, upon request of the owner, agent, or captain of such boats, make the inspections and furnish the certificate referred to.

2. Such request should be sent to the inspector, in writing, at least twenty-four (24) hours before the date of departure of the vessel (*Form 2*).

3. At an hour as near as convenient to the time fixed for departure, the inspector shall make a thorough examination of the boat with reference to the following points:

(a) Presence or absence, among passengers, officers, and crew, of dangerous sickness.

(b) Character and general sanitary condition of cargo.

(c) Condition of boat as to cleanliness of hold and bilge, and presence of rotten wood in hull.

4. On the completion of his examination, the inspector will fill out his record (*Form 3*) in accordance with the facts, and will furnish the master of the boat with a corresponding certificate (*Form 1*).

5. If, upon examination, the boat be found to be *foul* or *infected* in

an insanitary condition, the inspector will advise suitable treatment.

6. A vessel shall be considered "foul," within the purview of this code:

1. If the hold contains decomposing organic matter of any description, or is wet and unventilated.

2. If the bilge is dirty and gives off offensive odors.

3. If the water-closets and urinals are unclean.

4. If the boiler-deck, Texas, or other accommodations for the crew are dirty and badly ventilated.

5. If there is much decaying or rotten wood untreated with zinc-ion, copperas solution, or lime-wash.

6. If the cargo comprises articles or material whose exposure and handling are prejudicial to health by reason of decay and decomposition of organic matter, animal or vegetable. Particular attention should be given to the history of rags, paper-stock, and second-hand textile fabrics—especially clothing and bedding—comprising cargo; as also all articles from tropical ports and to the condition of fruits, vegetables or other articles liable to decomposition.

7. The necessary cleansing and disinfection of a *foul* boat should be done by the crew of the boat under the supervision of the inspector. Until this is completed and the sanitary condition of the boat is satisfactory he will either withhold the certificate or, in his discretion, endorse the same in accordance with the facts.

8. Boats arriving from below at the ports of Vicksburg, Memphis, or Cairo, without having passed examination at the intermediate inspection station or stations, will not be allowed by the local authorities to land passengers or freight, nor to have any intercourse with said ports, until they shall have returned to the nearest station and there complied with the requirements of this code.

9. On hearing an inspection station the boat should give her usual signal (by whistle), and should "slow up" opposite the station until her signal is responded to. When practicable the boat will be boarded in the stream by the inspector from his launch or yawl; but when necessary the vessel shall land at the station. The signal requiring a vessel to land will be made by dipping the station flag, or (if at night) by waving a yellow light.

10. After examining the original certificate, the inspector will ascertain what, if any, changes have been made in the *personnel* or cargo since the last inspection; and will then make such examination of the boat as may be necessary to determine her present sanitary condition—being governed by *Rule 5*, *et seq.*, so far as applicable, in the treatment of a *foul* vessel. He will endorse the results of his inspection (and his action, if any) upon the original certificate, and make a record of the data called for in *Form 3*.

11. Boats (as described in *Rule 1*) departing northwise from, or entering the Mississippi River at, any point above New Orleans during the inspection season should be inspected at the nearest inspection station above such point, and furnished with certificates (*Form 1*), and in all other respects treated in the same manner as vessels from New Orleans.

12. Any boat, not included or defined in the above rules, may be boarded and inspected at any station in the discretion of the inspector; and if found so *foul* or *infected* as to be dangerous to health, she shall be treated in accordance with *Rules 5* and 7. In the event of refusal to cleanse or disinfect, as required, the inspector will at once notify—by telegraph, if necessary—the authorities of ports which might be endangered by intercourse with such boat. Refusal to permit boarding and inspection will be deemed *prima facie* evidence of such a suspicious condition as to warrant exclusion; and notice, as above, shall be given in such cases.

13. At the port of departure, as well as at the intermediate stations, inspectors will endeavor to discharge their duties with the least possible delay or hindrance to the boat. To this end, inspectors above New Orleans will, when practicable, make their examinations while the boats are under way; the inspection launch or yawl accompanying the boat as far as may be necessary for this purpose.

14. No fee, charge, port dues, or emolument, when over, shall be received from boats inspected nor from the persons thereon, by the inspector or any other person connected with this service. Actual cost of disinfectant necessarily used or furnished for a *foul* or *infected* boat shall, however, be defrayed by the master or owner of such boat; and the inspector will, in all cases, receipt to said master or owner for any sum or sums thus received (*Form 4*).

15. Inspections of south-bound boats may be provided for hereafter, when in the judgment of the NATIONAL BOARD such inspections are deemed necessary for the protection of the lower valley from the introduction of contagion or infection from above. Under such circumstances needed modifications of this code will be duly promulgated by the BOARD.

16. Inspectors will make weekly reports on the blanks furnished for that purpose (Form 3), and address the same to the Secretary of the National Board of Health, Washington, D. C.

CODE B.

RULES AND REGULATIONS

To be enforced when yellow fever exists at or in the vicinity of any port or place on the Mississippi River.

SECTION I.—AT THE PORT OF DEPARTURE.

1. When a port or place on the Mississippi River is declared by the National Board of Health to be infected by yellow fever, and commercial intercourse is to be kept up with such port or place, an inspector or inspectors will be detailed for duty to carry out the provisions of this code.

2. No steamboat or vessel of any kind shall leave such infected port for any other port or place in the United States without complying with these rules.

3. The master or owner of any boat about to leave an infected port shall notify the inspector, in writing, at least twenty-four (24) hours before the time set for taking on cargo or for receiving passengers or baggage (Form 5).

4. Prior to the time appointed for receiving passengers and cargo the inspector will make a thorough examination of the boat and her officers and crew. If she is found to be in good sanitary condition, clean and dry, free from untreated decaying wood, and from all known sources or suspicion of contagion or infection, and if there be no sickness among the officers and crew, the inspector will issue his permit to receive passengers and cargo (Form 6). Until said permit is issued, no passenger nor article of baggage or of cargo should be received on board.

5. Careful inquiry will be made as to all persons engaged on the boat in any capacity, and if it shall be found that any one of them has been exposed to the infection of yellow fever, or has brought on board anything suspected of being infected, such person and such thing shall be removed from the boat, the thing disinfected and the person kept under observation for a period of not less than five (5) days, unless he presents satisfactory evidence that he has been protected by a previous attack of yellow fever.

6. The attention of the captain or master will be directed by the inspector to the personal cleanliness of the crew, to the condition of their quarters, and to their food and drinking-water. If any one on board fall sick during the stay in port, he should be immediately removed to hospital.

7. None of the crew should be permitted to sleep on deck at night during the sickly season, and this should be guarded against especially while the boat is lying at malarious or infected places.

8. In no case should any passenger or article of baggage or of cargo be taken on board until the inspection above directed has been made and the sanitary condition of the boat has been found satisfactory. In case of violation of this rule, the inspector may withhold his certificate.

9. Neither persons or things of any description, known or suspected to be infected, shall be received on board; and, during the loading of the boat and up to the time of departure, the inspector shall remain on duty to note the reception of any such suspected or infected person or thing.

10. Every passenger leaving an infected port or place shall obtain from the local health authorities a personal certificate of freedom from contagion or infection (Form 7). On presentation of such certificate, the inspector will examine the passenger, and, if satisfied, he will fill out the certificate of the National Board of Health (being part of Form 7), and will make a record of the information called for in Form 8, a duplicate of which will be furnished to the vessel.

11. Articles known or suspected to be infected shall not be received as cargo; and the inspector may, in his discretion, require the owner or shipper of any article or package offered for transportation to sign the declaration and agreement, Form 9.

12. Whenever a steamboat or other vessel is found to be infected, it shall proceed to the nearest quarantine station, or to some isolated location, there to be cleansed and disinfected. In the event that no quarantine station or suitable location is near at hand, or should the master or captain of the boat refuse to comply with these rules and regulations, the inspector will telegraph the facts to the nearest inspection station, and to the health authorities of the intermediate ports or places at which the boat or vessel might attempt to land.

13. When the National Board of Health declares a port to be

dangerously infected, steamboats or vessels shall be disinfected within twelve (12) hours before departure therefrom; and shall transfer passengers, baggage, and cargo at a point indicated in the special instructions issued to meet such emergencies.

14. The foregoing rules having been complied with, and the passengers and cargo being all on board, the inspector will furnish the captain or master with a bill of health (Form 10) certifying the precautions which have been taken and the danger to be apprehended, if any, from the boat, her passengers, officers, crew, or cargo.

SECTION II.—DURING THE VOYAGE.

1. It is especially enjoined upon captains or masters, and other officers, of boats plying upon the Mississippi River during the existence of an epidemic, that they secure the utmost attainable cleanliness in every part of their boats. The bilge should be pumped out every day, and fresh water run in until it is discharged clean and free from odor and discoloration; the hold should be well ventilated, and all refuse matter of every description should be promptly disposed of; all decaying wood should be scraped and painted with zinc and turpentine until it is completely saturated; lime-wash and copperas or zinc-iron should be freely used in the hold and bilge, on and about the boiler-deck and in water-closets and urinals; soap and hot water should be freely used; cabins, state-rooms, and "texas" should be sunned and aired at least six hours each day, weather permitting, as well as all clothing, bedding, carpets, and upholstered furniture. Sun and air are the best, as well as the cheapest, disinfectants. Freely and frequently expose every possible portion of the vessel and its contents to their action, and supplement this by scrupulous and thorough cleanings.

2. Should sickness make its appearance on board, a sick-bay or hospital should be established as near the stern of the boat as possible, and preferably upon the boiler-deck. The patient must be removed at once to this place, the necessary attendants appointed, and all other persons rigidly excluded from the vicinity of the sick. The attendants must be confined to the hospital quarters and not allowed to mingle with others of the passengers or crew.

3. Immediately after the removal of the patient to the sick-bay, his state-room and its contents must be disinfected with sulphurous acid gas. This is done by burning a couple of pounds of coarsely powdered brimstone in an iron vessel upon the floor of the room—proper precautions being taken against accident by fire. The room must be kept tightly closed after the brimstone is ignited, and not opened again until arrival at the inspection station. At least one room on either side of this room must be vacated during the rest of the trip.

4. During the existence of yellow fever, all cases of fever are to be regarded with suspicion. If such cases occur during a voyage, they must be isolated and the same precautions taken as if they were known to be yellow fever.

5. The master or captain shall keep, or cause to be kept, a record of any sickness which may occur on board during the trip. Such record shall set forth the name of each sick person, the hour and day when taken ill, and the symptoms, together with the changes in his or her condition during the morning, afternoon, and night of each day. It shall also state what precautions have been adopted and carried out. This record shall be presented to the inspector on arrival at the station.

SEC. III.—AT LANDING PLACES AND INSPECTION STATIONS.

1. Upon the arrival of a boat from an infected port near, the bill of health (Form 10), and a statement from the captain (Form 11), shall be submitted to the local health authority, under such precautions as may be deemed necessary. It is recommended that this be done at some convenient place not nearer than one mile from the limits of the port, and that the bill of health and the captain's statement be examined before boarding the boat.

2. If, upon examination, the bill of health and the captain's statement are found to be in proper form and satisfactory, the boat shall then be boarded and examined; and if her condition and that of her cargo, passengers, officers and crew, be found to correspond with the representations in said bill of health and statement, and there be found no sickness of a doubtful or suspicious nature on board, the boat will be authorized to land and to have free intercourse with the port or place; subject, however, to such additional requirements as may be prescribed by the local authorities, and not in conflict with these rules and regulations.

3. Until authorized as above, no boat clearing from, or having touched at, an infected port shall land at any other port or place; and this regulation will be enforced by such measures (of fine and penalty) as the local authorities may decree.

4. When suspicious sickness is found on board, or the condition of the boat or its contents (persons or things) is, in any other respect, adjudged to be dangerous to the public health, she shall proceed forthwith to the nearest inspection station for treatment. Local authorities cognizant of the movements of such boat will telegraph the facts to the nearest inspection station and to adjacent ports.

5. A boat approaching an inspection station should give her usual signal (by whistle), and "slow up" until her signal is responded to,

When practicable, the vessel will be boarded in the stream by the inspector, from his launch or yawl; but, when necessary, the vessel shall land at the station. The signal requiring a vessel to land will be made by dipping the station flag by day, and by waving a signal light at night.

6. After examining the bill of health and the captain's statement, the inspector will ascertain what, if any, changes have been made in the *personnel* and cargo of the vessel since the last inspection, and will then make such critical examination of the vessel as may be necessary to determine her present sanitary condition.

7. If the vessel be found free from doubtful or suspicious sickness, clean and in good sanitary condition, the inspector will so indorse the bill of health, and she will be authorized to proceed upon her trip.

8. Especial attention will be paid to the examination of such passengers, baggage, cargo, or freight as may have been taken on board subsequent to the last inspection, and the inspector will note all additions of passengers upon the passenger list (*Form 8*), and will furnish them with personal certificates (*Form 12*).

9. If the vessel is found to be infected, she will be at once removed to a suitable location, and treated as follows:

(a) The sick will be removed to hospitals for treatment. Other passengers, and the unprotected or susceptible among the officers and crew, will be removed to quarters prepared for their reception. Only "protected" persons (in the sense of those who have previously had an attack of typical yellow fever) shall be allowed on the vessel until after she has been disinfected.

(b) No article of clothing, bedding, or personal baggage of any description from the vessel shall be taken into hospitals or quarters until such article has been thoroughly disinfected.

(c) After the removal of persons and baggage, the boat shall be disinfected by means of sulphurous acid gas, as thoroughly as possible, without disturbing the cargo. The crew of the boat shall then discharge the cargo, which shall be stored in such manner as to insure its freest exposure to the open air consistent with necessary protection.

(d) When the cargo has been removed, the vessel shall be thoroughly cleansed in every accessible part, again disinfected and ventilated as the inspector may deem necessary. After the preliminary disinfection (prescribed in Article "c"), all work in removing and handling cargo and in cleansing and care of boat should be performed by the crew under the direction of the inspector.

10. Until this process of discharge of cargo and purification of boat, as above directed, has been completed to the satisfaction of the inspector (as shown by his certificate to that effect) there shall be no communication between the boat and the shore, or with other vessels, except by the written permit of the inspector, and then only in the manner and for the purpose specified in said permit.

11. Those sick with yellow fever shall not be allowed to leave the hospital until in the judgment of the inspecting officer they can do so without danger to themselves or others.

12. Persons under observation shall be detained for at least five (5) days from the time of last exposure to the contagion or infection of yellow fever. If the disease appears among such persons the sick shall be removed to hospital, and a new locality for observation selected with such precautions, by way of disinfection, &c., as the inspector may deem necessary to prevent the transportation of the infection to the new site.

13. No arbitrary period of detention, beyond five (5) days from last exposure of unprotected persons, will be enforced. The vessel will be permitted to depart, and the cargo released as soon as the inspector deems it safe to do so with reference to the public health.

14. "Protected" persons, whether among the passengers, officers, or crew, shall be exempt from the five days' detention for observation, and may be allowed to depart at any time after the necessary precautions have been taken with regard to their baggage, clothing, and other effects, as well as to themselves in person. The inspector shall be the judge of the evidence of such "protection," and will exercise due caution in the use of this discretionary power.

15. When the boat and cargo are released the inspector shall issue his certificate, reciting the facts in relation to said boat, his action thereupon, and his belief that the boat and cargo are free from infection, and may proceed without danger or menace to the public health.

16. No person taken from an infected boat at the inspection station shall depart therefrom without a certificate from the inspector authorizing him or her to proceed, as being free from infection or the probability of conveying the same.

17. Persons employed at an inspection station, having been brought in contact with an infected boat, shall not be permitted to leave such station until their clothing has been washed and disinfected.

18. It shall be the duty of the inspector to take such other measures of precaution, in addition to the foregoing, as he may deem necessary or expedient for the protection of the public health.

19. No boat nor passenger having the proper certificates showing that these rules and regulations have been complied with, should be detained by other health authorities, except for sufficient cause.

20. The foregoing regulations apply to all boats carrying passengers or freight, including all tow-boats, tugs, barges, and canal-boats plying upon the Mississippi River south of Cairo, Ill.

[Form 1.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE, 1880.

Certificate of inspection of the _____, 1880.

EXPLANATIONS.

1. The master or captain of the boat will fill up and sign blank A.
2. Every person on board at time of inspection must be accounted for, either among the passengers, officers, or crew.
3. Only the following articles of cargo need be specified: *Coffee, sugar, fruits, other articles from tropical ports, second-hand bedding and clothing, rags and paper stock.*
4. If the vessel is a tow-boat the number, names, and tonnage of her barges will be given in the space for cargo. If the barges are loaded, articles of cargo enumerated above will be specified.

DECLARATION OF CAPTAIN, A.

[To be sworn to if required.]

PORT OF _____, 1880.

I do hereby declare that the following statements concerning the vessel herein named (whereof I am captain or master), and concerning her present trip, are correct and true to the best of my knowledge and belief, to wit: The _____, built in the year _____, burden _____ tons, leaves _____ this _____ day of _____, 1880, bound for _____, carries _____ officers, _____ crew, _____ cabin and _____ deck passengers, no one of whom is known or suspected to have yellow fever, cholera, small-pox, or plague, or to have been recently exposed to either of these diseases. Her cargo comprises _____

_____, Captain.

Sworn and subscribed to before me this _____ day of _____, A. D., 1880.

_____, Inspector.

NATIONAL BOARD OF HEALTH—CERTIFICATE OF INSPECTION, B.

No. _____, (PORT OF NEW ORLEANS, LA., _____, 1880.)

I certify (1) that I have this day inspected the _____, and find her sanitary condition satisfactory; (2) that her passengers, officers, and crew are apparently free from contagion or infection; (3) that the *Rules and Regulations of the National Board of Health* have been complied with _____; and (4) that the character of her cargo is unobjectionable _____.

The vessel is hereby authorized to proceed upon her trip.

_____, Inspector.

NATIONAL BOARD OF HEALTH—CERTIFICATE OF INSPECTION, C.

No. _____, (A STATION NO. 1, near VIRKSBURG, MISS., _____, 1880.)

I certify that I have this day inspected the _____, and find that the statements made in the declaration of the captain (A), as also those numbered _____, in the preceding certificate (B), agree with the present condition of the vessel, her passengers, officers, crew, and cargo, with the following exceptions: _____

The *Rules and Regulations of the National Board of Health* having been fully complied with, and the sanitary condition of the vessel, her passengers, officers, crew, and cargo being satisfactory, she is hereby authorized to proceed upon her trip.

_____, Inspector.

NATIONAL BOARD OF HEALTH—CERTIFICATE OF INSPECTION, D.

No. ———, { STATION No. 2, near MEMPHIS, TENN., ———, 1880.

I certify that I have this day inspected the ———, and find that the statements made in the declaration of the captain (A); those numbered ———, in certificate B, and those in certificate C, agree with (remainder of form same as that of C).

NATIONAL BOARD OF HEALTH—CERTIFICATE OF INSPECTION, E.

No. ———, { STATION No. 3, near CAIRO, ILL., ———, 1880.

I certify that I have this day inspected the ———, and find that the statements made in the declaration of the captain (A); those numbered 2, 3, 4, 5, in certificate B, and those in certificates C and D agree with (remainder of form same as C).

[Form 2.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE.

PORT OF NEW ORLEANS, LA., ———, 1880.

The inspector of the National Board of Health—River Inspection Service—is hereby notified that the ——— is on berth at ———, and will leave for ——— at — o'clock — m., ———, 1880.

—————, Captain.

[Form 3.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE, 1880.

Record of inspections made at ——— during the week ended ———, 1880.

—————, Inspector.

NOTE.—Inspectors at intermediate stations will note in their records (under the heads of "Found on board" and "Cargo") any changes made during a trip in passenger list or cargo. They will specify (under the head of "Remarks") what, if any, inspections have been made during the trip of each vessel prior to her arrival at their respective stations, and note any special features of such inspections. They will also (under the same head) state fully what measures of cleansing or disinfection may have been found necessary and enforced by them.

[Form 3 continued.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE.

Record of inspection No. —, made ———, 1880, — o'clock — m.

—————, Inspector.

Inspected ———; built, ——— tonnage ———; ———, captain.

Bound from ———, ———, 1880, to ———.

Found on board: — officers, — crew, — cabin, — deck passengers.

Cargo comprises the following articles duly specified on certificate: ———

Condition of vessel: Hold, ———; bilge, ———; water closets and urinals, ———; decaying or rotten wood, ———; quarters for crew, ———;

Remarks: (four blank lines.)

[Form 4.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE, 1880.

STATION No. —, near ———, ——— 31, 1880.

Received from ——— Received from ———, captain of the ———, the sum of ——— dollars, in full for disinfectants (kind and quantity specified on the back hereof) furnished for the cleansing and disinfection of said vessel.

—————, Inspector.

§ 100

[Form 5.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE, 1880.

Port of (1) ———, ———, 1880.

The inspector of the National Board of Health, River Inspection Service, is hereby notified that the (2) ———, whereof the undersigned is Master, is on berth at (3) ———, for (4) ———, and will be ready to receive passengers, baggage, and freight on board at (5) ———, 1880.

(6) ———, Master.

NOTE.—Fill out blanks with (1) name of port and date of notice; (2) name of vessel; (3) location of berth; (4) place of destination; (5) hour, a. m., or p. m., and day of week and of month of departure; (6) signature of Master, for whom the clerk of the boat may sign.

Indorsement:

Form 5. ———, 1880.

NATIONAL BOARD OF HEALTH.

RIVER INSPECTION SERVICE.

Notice to Inspector.

[Form 6.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE, 1880.

Port of ———, ———, 1880.

I have this day inspected the ———, Master, bound for ———, from this port; and do hereby certify that her sanitary condition ———; that the hold ———; that the bilge ———; that there is ——— decaying wood ———; and that her officers and crew show ——— symptoms of yellow fever, and are believed ——— to have been exposed to that disease within the past ——— days.

The said vessel, being hereby pronounced free from all known sources of contagion or infection ———, is authorized to receive passengers, baggage, and cargo, in accordance with the rules and regulations of the National Board of Health.

—————, Inspector.

Indorsement:

Form 6. ———, 1880.

NATIONAL BOARD OF HEALTH.

RIVER INSPECTION SERVICE.

Permit to Receive Passengers and Cargo.

[Form 7.]

NATIONAL BOARD OF HEALTH—PASSENGER'S CERTIFICATE AND INDORSEMENTS, 1880.

[Size 6 inches wide, 10 inches long, to fold twice, making 6 pages.]

CERTIFIED STATEMENT OF PASSENGER.

(Place.) ———, ———.

(Date.) ———, 1880.

I do hereby certify that I have not, within the past ——— days, been affected with ———, nor in any manner exposed to its contagion or infection; that I have resided during all of said period at No. ——— street, and that I desire to proceed by river to ———.

In witness whereof I have hereunto set my hand and seal the day and date above written.

[L.S.]

VERIFICATION OF PHYSICIAN.

—————, the person whose signature is appended to the above certificate, is personally known to me, and I believe the statements made in said certificate to be true and correct. I further believe [him or her] to be free from contagion or infection, and that [he or she] may proceed upon [his or her] journey without injury or danger to the public health.

—————, M. D.

—————, 1880.

LOCAL AUTHORIZATION.

BOARD OF HEALTH OF ———, ———, 1880.

—————, M. D., a reputable practising physician, having proper opportunities for knowing the present conditions affecting the

public health, and believed to fully recognize the importance of preventing the spread of the existing epidemic, is hereby authorized and empowered to verify the foregoing certificate.

President Board of Health.

NOTE.—In the absence of a board of health, the chief municipal officer will issue this authorization.

I hereby certify, after personal examination, that _____, named in the within certificate, is not now affected with _____; that all rules and regulations of the National Board of Health relating to the departure of passengers from infected towns and places, have been complied with in [his or her] case; and that [he or she] may, without danger to the public health, proceed as a passenger on the _____ to _____, _____.

Inspector N. B. H.

_____, 1880.

INDORSEMENTS OF SUBSEQUENT INSPECTORS.

[Form 8.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE, 1880.

Passenger list of the _____, Master, from the port of _____, this _____ day of _____, 1880, to _____:

Name.	Last residence.	Where to.	Name of physician verifying certificate.

NOTE.—If the sex is not indicated by the name prefix *Mrs.* or *Miss* in the proper cases. Add the letter "e" after the names of colored persons. The number, street, and city or town, will be given under the head of "*Last residence.*" The inspector will add, after the last name, the following: *Personally examined the above-named passengers, and authorized their departure.*

(Signature.)

Inspector.

(Indorsement:)

Form 8.

1880.

NATIONAL BOARD OF HEALTH.

RIVER INSPECTION SERVICE.

Passenger List.

[Form 9.]

DECLARATION AND AGREEMENT.

Port of _____, 1880.

I, _____, a resident of _____, and being the legal and rightful owner custodian (1) of certain property, to wit: (2)

and being desirous of shipping the same, by the _____, from this port to _____, do hereby declare that said described property has not been exposed to any contagion or infection of _____ within the past _____ days, to the best of my knowledge and belief, and that the contents of the packages are as herein described.

I do, further, hereby agree to submit said property to the *Rules and Regulations* of the NATIONAL BOARD OF HEALTH relative to the spread of epidemic, contagious, or infectious diseases.

In witness whereof I have hereunto set my hand and seal at the port and on the day and date above written.

[L. S.]

NOTE.—(1) Strike out the superfluous word.—(2) Describe the con-

tents of packages, (boxes, barrels, bales, etc.), and give the shipping marks and address.

(Indorsement:)

Form 9.

1880.

NATIONAL BOARD OF HEALTH.

RIVER INSPECTION SERVICE.

Declaration and Agreement of Shippers.

[Form 10.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE, 1880.

BILL OF HEALTH.

I do hereby certify that I have this day personally examined the vessel herein named, and find the following to be the essential facts bearing upon the relation of said vessel to the public health:

Name and description: _____
Built at _____; in the year 18____.
Tonnage: _____ Destination: _____
Name of captain: _____
Total No. officers and crew, (1) _____; cabin passengers (2) _____; deck passengers (2) _____ Total souls on board _____
Cargo: (3) _____
Condition of hold: _____; of bilge _____; of passenger's accommodation: _____; of crew's quarters: _____; of water-closets and urinals: _____; of other specified portions of the vessel: _____
Condition of persons on board: _____

The *Rules and Regulations* of the NATIONAL BOARD OF HEALTH, relative to the spread of epidemic, contagious, or infectious diseases, at the port of departure having been fully complied with, and the vessel and her contents being believed to be free from contagion and infection, she is hereby authorized to proceed to her port of destination, subject to the further rules and regulations governing vessels in transit and on arrival at landing places and inspection stations.

In witness whereof, I have hereunto set my hand and seal at the port of _____, this _____ day of _____, A. D. 1880, [L. S.]

Inspector, N. B. H.

NOTE.—(1) All persons employed on board, in whatever capacity must be accounted for. (2) The names of all passengers must appear on the *Passenger's List*, Form 8. (3) Articles of cargo shipped under *Declaration and Agreement*, Form 9, must be mentioned on this BILL OF HEALTH.

(Indorsement:)

Form 10.

1880.

NATIONAL BOARD OF HEALTH.

RIVER INSPECTION SERVICE.

Bill of Health.

[Form 11.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE, 1880.

ON BOARD _____
NEAR _____, _____.

I, _____, Master of the above-named vessel, do hereby certify that there is no yellow fever on board, and no infected article or cause of contagion of any kind to the best of my knowledge and belief. All the *Rules and Regulations* of the NATIONAL BOARD OF HEALTH, relative to the prevention of the spread of epidemic, contagious, and infectious diseases, have been complied with.

Since last being inspected I have made the following landings:

In witness of the truth of the foregoing statement I have hereunto set my hand and seal, this _____ day of _____, A. D. 1880, [L. S.]

Master.

(Indorsement:)

Form 11.

1880.

NATIONAL BOARD OF HEALTH.

RIVER INSPECTION SERVICE.

Statement of Captain or Master.

[Form 12.]

NATIONAL BOARD OF HEALTH—RIVER INSPECTION SERVICE,
1880.

INSPECTION STATION No. —, near —, 1880.

I hereby certify that the bearer of this certificate, —, arrived at this station on the —; that the passenger-list of said vessel shows [him or her] to have been received on board at —, which place is now free from yellow fever; that [he or she] is not now affected with that disease; is believed to be free from contagion or infection; and may, without danger to the public health, proceed to —.

Inspector.

(Indorsement:)

Form 12.

1880.

NATIONAL BOARD OF HEALTH.

RIVER INSPECTION SERVICE.

Way Passenger Service.

RULES AND REGULATIONS

For the conduct of railway travel and traffic in regions exposed to or infected by yellow fever.

GENERAL RECOMMENDATIONS AT ALL SEASONS OF THE YEAR.

1. The depots, buildings, and surroundings should be kept clean, the grounds well drained, and free from stagnant water and decomposing organic matters; the water-closets and privies thoroughly clean in every part, and free from offensive odors; the vaults of privies emptied often enough to prevent any large accumulation of excrement or offensive matter, and kept disinfected by the use of saturated solutions of the sulphates or chlorides of iron or zinc, in sufficient quantity to remove all offensive odors.
2. The road-beds and tracks of railroads should be kept free from filth and impurities. It is especially desired that this rule be observed in respect to all sidings near stations or towns.
3. The upholstered seats of passenger and sleeping cars, and the mattresses, pillows, blankets, curtains, and carpets of sleeping-cars should be thoroughly whipped or beaten (in the open air so far as practicable) and brushed free from all dust, and thoroughly aired and sunned at the end of each trip.
4. So far as practicable, wooden upholstery, curtains, and carpets should be dispensed with in passenger, sleeping, and parlor coaches on all lines south of the Ohio River between April 1 and November 1 each year. During this period, if seats must be used which are upholstered with wooden stuffs, they should be protected by linen covers, which should be washed at the end of each trip.
5. Especial attention should be paid to the condition of the closets, as also of the water supply for drinking purposes.
6. All railroad cars should be thoroughly ventilated at all times.

RULES AND REGULATIONS

Recommended to be enforced by State or municipal authorities during the existence of yellow fever.

1. Every train leaving an infected city, town, or other place shall be inspected by a competent medical man, who shall give to the conductor of said train a certificate of the results of his inspection in accordance with *Form No. 1*, appended hereto.
2. It shall also be his duty to furnish certificates to each passenger, in accordance with *Form No. 3*, appended hereto, and no passenger shall be permitted to leave an infected place without such certificate. No person having fever shall be allowed to take passage on such train.
3. All cars leaving such place shall be thoroughly cleansed, and fumigated with sulphurous acid gas by burning 15 ounces of sulphur for every 1,000 cubic feet of space, closing the car tightly for six hours prior to leaving.
4. No upholstered car shall be allowed to leave a dangerously infected place; but passengers shall be carried from such place to the transfer station (provided for in *Rule 6*) in open pavilion cars, or cars furnished with wooden seats and with such facilities for ventilation as will insure thorough exposure to the open air during the transit.
5. All baggage shall be thoroughly disinfected at or near the station before leaving.
6. At a point not less than five (5) miles, and as near this distance as practicable, from the point of departure from an infected place, there shall be an entire transfer of passengers and baggage to other open pavilion cars of the same description as those prescribed in *Rule 4*, which cars shall not enter an infected district except as provided for in *Rule 16*.

7. The transfer train from an infected place, after having disembarked its passengers and baggage at the transfer station, shall withdraw, with its conductor and crew, at least one mile before the outbound train will be allowed to back down to the station. Both trains must not be permitted to be at the station at the same time, and the officer in charge of the transfer will allow no communication between the crews of the respective trains.

8. This transfer shall be made in the open air, under the supervision of a medical officer, and as far from a habitation as possible, and no person with fever shall be allowed to proceed. Neither shall any person be allowed to proceed without the certificate (*Form 3*) prescribed by *Rule 2*.

9. The medical officer at the transfer station shall carefully examine the conductor's certificate (*Form 1*), and the certificate of each passenger (*Form 3*), and shall fill up the blanks in the transfer-station certificate attached to *Form 3*, and furnish to the conductor of the outbound train his certificate (*Form 2*) duly made out to accord with the results of his examination.

10. The pavilion cars from the transfer station may be attached to the rear of any regular train at a point not less than five (5) miles beyond the station, and passengers and baggage from such pavilion cars may enter the regular passenger and baggage cars of such regular train after having been carried in the pavilion cars for a distance of not less than fifty (50) miles from the infected place, but not sooner.

11. No sleeping-car shall be allowed to leave a dangerously-infected place, nor shall any sleeping-car approach nearer such place than a point five (5) miles beyond the transfer station.

12. In case of suspected infection of a passenger-car, or of a sleeping-car, such car, including all the upholstery, cushions, curtains, mattresses, &c., shall be thoroughly disinfected, under the supervision of a medical officer, and shall be exposed to the open air for at least twenty days before being again used.

13. All freight shall be transferred at a point not less than five (5) nor exceeding fifty (50) miles from the point of departure, and the cars from which such freight has been transferred shall not proceed farther on the road, but shall be returned to the point of departure. The freight-cars, after unloading, shall be thoroughly cleansed by scrubbing, disinfected, and ventilated.

14. Mail matter and mail bags shall be heated to a temperature of two hundred and fifty (250) degrees Fahrenheit, or should be otherwise disinfected before they are sent from infected places.

15. If yellow fever infect a place situated upon a line of railroad, trains of all kinds may be permitted to pass through without stopping, and at a speed of not less than ten (10) miles an hour; but they shall not take on passengers from such infected place except as hereinbefore provided—namely, after transit of person and baggage (in such manner as shall secure free exposure to the open air) from the infected place to a point at least five (5) miles distant, where, upon presentation of the proper certificate (*Form 3*), they may be received on the pavilion cars provided for such purpose, but from which they shall not enter the regular cars of the train until after having ridden at least fifty (50) miles from the infected place.

16. No train having a certificate of inspection from a transfer station (*Form 2*), and no passenger having certificate (*Form 3*) duly vised at the proper transfer station, shall be interfered with by any municipal or other local system of quarantine.

17. All persons leaving infected places by other modes of travel than those herein provided for shall be required to obtain certificates according to *Form 4*, appended hereto.

[Form No. 1.]

I hereby certify that train No. —, on the — Railroad, —, conductor, and which leaves — at — o'clock — m., this day, has complied with all the rules and regulations recommended by the NATIONAL BOARD OF HEALTH for trains leaving infected places. —, (signature)
Inspecting Officer.

(Name of place.)
(Date.)

[Form No. 2.]

I hereby certify that train No. —, on the — Railroad, —, conductor, has not been nearer the city (or town) of — than — miles; that the passengers and baggage thereon were brought to this station in open pavilion cars, and that all the rules and regulations recommended by the National Board of Health for the conduct of Railway Travel and Traffic with infected places have been complied with by this train, which is, therefore, authorized to proceed without further detention.

(Name of Transfer Station, date and signature.)

[Form No. 3.]

(Same as "Form No. 2," of 1879.)

[Form No. 4.]

(Same as "Form No. 3," of 1879.)

(Matter on pp. 29, 30, 31, and 32, pamphlet of 1879, unchanged. To "General Explanations," on p. 31, add the "Explanations" on p. 4, *ibid.*)

RULES AND REGULATIONS

To be observed and enforced by the health authorities of a place free from infection, having communication with a place dangerously infected with yellow fever.

1. No steamboat or other vessel, or railroad train or other conveyance, or persons, from a place *dangerously infected*, shall be permitted to enter a non-infected place without having certificates of the forms prescribed (see pages 17 and 26), giving evidence that they have complied with the rules and regulations provided for conveyances and persons leaving *dangerously infected* places. Boats, trains, and persons having certificates in proper form that they have been inspected and are free from disease shall be allowed to enter.

2. Inspections to ascertain whether these rules have been observed, and whether it is safe for the conveyances or persons to enter a non-infected place, shall be made outside the limits of such place.

3. Separate accommodations must be provided both for the sick and for the well who are detained for observation.

RULES AND REGULATIONS

Recommended to be adopted and observed when yellow fever is reported or suspected to exist in any town or place in the United States.

GENERAL EXPLANATIONS.

A. During the warm season, in all localities in any way exposed to the contagion of yellow fever, the possibility of its occurrence should never be lost sight of by physicians, and when it is known to be present in any place, the antecedents and diagnosis of every case admitting of doubt should receive special attention.

B. Upon an outbreak of yellow fever, a competent medical officer should be assigned to the locality as health officer, to enforce the following rules and regulations:

1. All physicians shall report to the health authorities with the least possible delay their knowledge or belief of the existence of the first cases of yellow fever, and shall at the same time secure, as far as possible, the isolation of such cases pending the action of the health authorities.

2. Upon the receipt of such report the health authorities shall at once investigate the case, and if it be found to be yellow fever or a case admitting of reasonable doubt, they shall at once have the patient isolated as effectually and completely as possible.

3. In case of the patient's removal, recovery, or death, the premises occupied by him shall be thoroughly disinfected, and the clothing, bedding, and other articles which have been exposed to infection shall be either burned, or boiled in water for not less than thirty minutes.

4. When the health authorities of any place shall first discover a case of yellow fever there, they shall report the fact at once by telegraph to the National Board of Health.

5. An attempt should be made to isolate and keep under observation for at least five days all persons who have been in such relation to the first case or cases as to make it possible that they are infected.

6. In general, no place shall be considered *dangerously infected* until at least one case has occurred as a result of infection incubating within the place itself.

7. When a place is declared *dangerously infected* the health authorities should advise, and use every effort for, the removal of all persons liable to yellow fever to a place or places safe from danger of infection. When they can be removed to only a short distance, it is better to locate them in tents in the open air.

IOWA STATE BOARD OF HEALTH AND VITAL STATISTICS.

AN ACT to establish a State board of health in the State of Iowa, to provide for collecting vital statistics and to assign certain duties to local boards of health and to punish neglect of duties.

Be it enacted by the general assembly of the State of Iowa:

SECTION 1. That the governor, with the approval of the executive council, shall appoint nine (9) persons, one of whom shall be the attorney-general of the State (by virtue of his office), one a civil engineer, and seven (7) physicians, who shall constitute a State board of health. The persons so appointed shall hold their offices for seven (7) years: *Provided*, That the term of office of the seven physicians first appointed shall be so arranged by lot that the term of one shall expire on the thirty-first (31st) day of January of each year; and the vacancies thus occasioned, as well as all other vacancies

otherwise occurring, shall be filled by the governor, with the approval of the executive council.

SEC. 2. The State board of health shall have the general supervision of the interests of the health and life of the citizens of the State. They shall have charge of all matters pertaining to quarantine; they shall supervise a State registration of marriages, births, and deaths, as hereinafter provided; they shall have authority to make such rules and regulations and such sanitary investigations as they may, from time to time, deem necessary for the preservation or improvement of the public health; and it shall be the duty of all police officers, sheriffs, constables, and all other officers of the State, to enforce such rules and regulations, so far as the efficiency and success of the board may depend upon their official co-operation.

SEC. 3. The clerk of the district and circuit courts of each of the several counties in the State shall be required to keep separate books for the registration of the names and post-office address of physicians and midwives, for births, for marriages, and for deaths, which record shall show the names, date of birth, death or marriage; the names of parents and the sex of the child, when a birth, and when a death, shall give the age, sex, and cause of death, with the date of the record, and the name of the person furnishing the information. Said books shall always be open for inspection without fee; and the clerks of said courts shall be required to render a full and complete report of all births, marriages, and deaths to the secretary of the board of health annually, on the first day of October of each year, and at such other times as the board may direct.

SEC. 4. It shall be the duty of the board of health to prepare such forms for the record of births, marriages, and deaths as they may deem proper; the said forms to be furnished by the secretary of said board to the clerks of the district and circuit courts of the several counties, whose duty it shall be to furnish them to such persons as are herein required to make reports.

SEC. 5. It shall be the duty of all physicians and midwives in this State to register their names and post-office address with the clerk of the district and circuit courts of the county where they reside; and said physicians and midwives shall be required, under penalty of ten dollars (\$10), to be recovered in any court of competent jurisdiction in the State at suit of the clerk of the courts, to report to the clerk of the courts, within thirty (30) days from the date of their occurrence, all births and deaths which may come under their supervision, with a certificate of the cause of death, and such other facts as the board may require, in the blank forms furnished, as hereinafter provided.

SEC. 6. When any birth or death shall take place, no physician or midwife being in attendance, the same shall be reported by the parent to the clerk of the district and circuit courts within thirty (30) days from the date of its occurrence, and if a death, the supposed cause of death, or, if there be no parent, by the nearest of kin not a minor, or, if none, by the resident householder where the birth or death shall have occurred, under penalty provided in the preceding section of this act. Clerks of the district and circuit courts shall annually, on the first day of October of each year, send to the secretary of the State board of health a statement of all births and deaths recorded in their offices for the year preceding said date, under a penalty of twenty-five dollars (\$25) in case of failure.

SEC. 7. The corners of the several counties shall report to the clerk of the courts all cases of death which may come under their supervision, with the cause or mode of death, etc., as per form furnished, under penalty as provided in section 5 of this act.

SEC. 8. All amounts recovered under the penalties of this act shall be appropriated to a special fund for carrying out the object of this law.

SEC. 9. The first meeting of the board shall be within twenty days after its appointment, and thereafter in May and November of each year, and at such other times as the board shall deem expedient. The November meeting shall be in the city of Des Moines. A majority of the members of the board shall constitute a quorum. They shall choose one of their number to be president, and shall adopt rules and by-laws for their government, subject to the provisions of this act.

SEC. 10. They shall elect a secretary, who shall perform the duties prescribed by the board and by this act. He shall receive a salary, which shall be fixed by the board, not exceeding \$1,200 per annum. He shall, with the other members of the board, receive actual traveling and other necessary expenses incurred in the performance of official duties; but no other member of the board shall receive a salary. The president of the board shall quarterly certify the amount due the secretary, and on presentation of said certificate the auditor of State shall draw his warrant on the State treasurer for [60] the amount.

SEC. 11. It shall be the duty of the board of health to make a biennial report, through their secretary or otherwise, in writing, to the governor of the State, on or before the first 1st day of December of each year preceding that in which the general assembly meets; and such report shall include so much of the proceedings of the board, such information concerning vital statistics, such knowledge of reported diseases, and such instruction on the subject of hygiene as may be thought useful by the board, for dissemination among the people, with such suggestions as to legislative action as they may deem necessary.

SEC. 12. The sum of five thousand dollars (\$5,000) per annum, or

so much thereof as may be necessary, is hereby appropriated to pay the salary of the secretary, meet the contingent expenses of the office of the secretary and the expenses of the board, and all costs of printing, which together shall not exceed the sum hereby appropriated. Said expenses shall be certified and paid in the same manner as the salary of the secretary. The secretary of state shall provide rooms suitable for the meetings of the board and office-room for the secretary of the board.

SEC. 13. The mayor and aldermen of each incorporated city, the mayor and council of any incorporated town or village in the State, or the trustees of any township, shall have and exercise all the powers and perform all the duties of a board of health within the limits of the cities, towns, and townships of which they are officers.

SEC. 14. Every local board of health shall appoint a competent physician to the board, who shall be the health officer within its jurisdiction, and shall hold his office during the pleasure of the board. The clerks of the townships and the clerks and recorders of cities and towns shall be clerks of the local boards. The local boards shall also regulate all fees and charges of persons employed by them in the execution of the health laws and of their own regulations.

SEC. 15. It shall be the duty of the health physician of every incorporated town, and also the clerk of the local board of health in each city or incorporated town or village in the State, at least once a year to report to the State board of health their proceedings, and such other facts required, on blanks and in accordance with instructions received from said State board. They shall also make special reports whenever required to do so by the State board of health.

SEC. 16. Local boards of health shall make such regulations respecting nuisances, sources of filth, and causes of sickness within their jurisdiction and on board any boats in their ports or harbors as they shall judge necessary for the public health and safety; and if any person shall violate any such regulations, he shall forfeit a sum of not less than twenty-five [dollars] (\$25) for every day during which he knowingly violates or disregards said rules and regulations, to be recovered before any justice of the peace or other court of competent jurisdiction.

SEC. 17. The board of health of any city or incorporated town or village shall order the owner of any property, place, or building (at his own expense) to remove any nuisance, source of filth, or cause of sickness found on private property, within twenty-four (24) hours, or such other time as is deemed reasonable, after notice served as hereinafter provided; and if the owner or occupant neglects to do so, he shall forfeit a sum not exceeding twenty dollars (\$20) for every day during which he knowingly and willfully permits such nuisance or cause of sickness to remain after the time prescribed for the removal thereof.

SEC. 18. If the owner or occupant fails to comply with such order, the board may cause the nuisance, source of filth, or cause of sickness to be removed, and all expenses incurred thereby shall be paid by the owner, occupant, or other person who caused or permitted the same, if he has had actual notice from the board of health of the existence thereof, to be recovered by civil action in the name of the State before any court having jurisdiction.

SEC. 19. The board, when satisfied upon due examination that any cellar, room, tenement, or building in its town, occupied as a dwelling-place, has become, by reason of the number of occupants, or want of cleanliness, or other cause, unfit for such purpose, and a cause of nuisance or sickness to the occupants or the public, may issue a notice in writing to such occupants, or any of them, requiring the premises to be put in a proper condition as to cleanliness, or, if they see fit, requiring the occupants to remove or quit the premises within such time as the board may deem reasonable. If the persons so notified, or any of them, neglect or refuse to comply with the terms of the notice, the board may cause the premises to be properly cleaned at the expense of the owners, or may remove the occupants forcibly and close up the premises, and the same shall not again be occupied as a dwelling-place without permission in writing of the board.

SEC. 20. Whenever the board of health shall think it necessary for the preservation of the lives or health of the inhabitants to enter a place, building, or vessel in their township, for the purpose of examining into and destroying, removing, or preventing any nuisance, source of filth, or cause of sickness, and shall be refused such entry, any member of the board may make complaint, under oath, to any justice of the peace of his county, whether such justice be a member of the board or not, stating the facts of the case, so far as he has knowledge thereof. Such justice shall thereupon issue a warrant, directed to the sheriff or any constable of the county, commanding him to take sufficient aid, and, being accompanied by two or more members of said board of health, between the hours of sunrise and sunset, repair to the place where such nuisance, source of filth, or cause of sickness complained of may be, and the same destroy, remove, or prevent, under the direction of such members of the board of health.

SEC. 21. When any person coming from abroad, or residing within any city, town, or township within this State, shall be infected, or shall lately have been infected with small-pox, or other sickness dangerous to the public health, the board of health of the city, town, or township where said person may be, shall make effectual provision, in the manner in which they shall judge best, for the safety of the inhabitants, by removing such sick or infected person to a separate

house, if it can be done without damage to his health, and by providing nurses and other assistance and supplies, which shall be charged to the person himself, his parents, or other person who may be liable for his support, if able; otherwise at the expense of the county to which he belongs.

SEC. 22. If any infected person cannot be removed without damage to his health, the board of health shall make provision for him, as directed in the preceding section, in the house in which he may be, and in such case they may cause the persons in the neighborhood to be removed, and may take such other measures as may be deemed necessary for the safety of the inhabitants.

SEC. 23. Any justice of the peace, on application under oath showing cause therefor by a local board, or any member thereof, shall issue his warrant under his hand, directed to the sheriff or any constable of the county, requiring him, under the direction of the board of health, to remove any person infected with contagious diseases, or to take possession of condemned houses and lodgings, and to provide nurses and attendants and other necessities for the care, safety, and relief of the sick.

SEC. 24. Local boards of health shall meet for the transaction of business on the first Monday of May and the first Monday in November of each year, and at any other time that the necessities of the health of their respective jurisdictions may demand; and the clerk of each board shall transmit his annual report to the secretary of the State board of health within two weeks after the November meeting. Said report shall embrace a history of any epidemic disease which may have prevailed within his district. The failure of the clerk of the board to prepare, or cause to be prepared, and forward such report as above specified shall be considered a misdemeanor, for which he shall be subject to a fine of not more than twenty-five dollars (\$25).

SEC. 25. All laws in conflict with this act are hereby repealed.

SEC. 26. This act, being deemed of immediate importance, shall take effect and be in force from and after its passage and publication in the *Iowa State Register* and *Iowa State Leader*, newspapers published at Des Moines, Iowa.

Approved, March 26, 1880.

I hereby certify that the foregoing act was published in the *Iowa State Leader* April 1, and in the *Iowa State Register* April 3, 1880.

J. A. T. HULL, Secretary of State.

AN ACT TO ESTABLISH A STATE BOARD OF HEALTH FOR THE STATE OF NEW YORK.

Passed May 18, 1880, three-fifths being present.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Within twenty days after the passage of this act, the governor shall appoint, by and with the advice and consent of the senate, three State commissioners of health, two of whom shall be graduates of legally constituted medical colleges and of not less than seven years' practice of their profession. The said commissioners, together with the attorney general, the superintendent of the State survey, and the health officer of the port of New York, who shall be ex-officio members of the State board of health, and three other persons to be designated and appointed by the governor, one of whom shall be a commissioner of health of the board of health of the city of New York, and the others shall be members or commissioners of health of regularly constituted and organized boards of health of cities of the State, shall constitute the board of health of the State of New York. Nothing in chapter three hundred and thirty-five of the laws of eighteen hundred and seventy-three of the State of New York, or in the laws amending the same, or in the laws constituting boards of health in the various cities of the State, shall be read or construed to prevent the appointment of the said commissioners of board of health of cities also members of the board of health of the State of New York, and no appointment to an office or acceptance thereof under this law shall be held to vacate the office previously held in any board of health of any city in this State.

SEC. 2. The said three commissioners so appointed shall take the oath of office prescribed by the constitution for State officers, and receive from the secretary of state certificates of their appointment. They shall hold office for three years, and whenever a vacancy occurs, the place shall be filled as in other cases provided by law, and the other commissioners shall, from time to time, be designated by the governor as occasion may require, or as their places may be vacated in the board by the expiration of the several terms of office.

SEC. 3. The State board of health shall meet at least once in every three months and as much oftener as they shall deem necessary, their first meeting being held in the city of Albany within two weeks after the appointment duly made of the members of the first board and after they shall have qualified as aforesaid, and each annual meeting shall be held within two weeks after the first of May each year after the first, as herein provided. No member of the board except the secretary shall receive any compensation, but the actual traveling and other expenses of the members and officers of

said board while engaged in their duties shall be allowed and paid out of the appropriation made for its support. They shall elect annually one member of the board to be president; they shall also elect from among their own members or otherwise a person of skill and experience in public health duties and sanitary science, to be the secretary and executive officer of said board, who shall have all the powers and privileges of a member of the board except in regard to voting upon matters relating to his own office and duties as secretary, and he shall hold said office for the term of three years, but he may be removed for cause after a full hearing by the board, a majority of the members voting therefor.

SEC. 4. The State board of health may adopt by-laws regulating the transaction of its business, and provide therein for the appointment of committees to whom it shall delegate authority and power for the work committed to them, and it may also adopt and use an official seal. Five members shall constitute a quorum for the transaction of business.

SEC. 5. The secretary shall keep a record of the acts and proceedings of the board, perform and superintend the work prescribed in this act, and such other duties as the board may order, and shall receive an annual salary of three thousand dollars, which shall be paid him in the same manner as the salaries of other State officers are paid, and such necessary expenses shall be allowed him as the comptroller shall audit on the presentation of an itemized account having vouchers annexed, together with the certificate of the board.

SEC. 6. Said board shall take cognizance of the interests of health and life among the people of the State; they shall make inquiries in respect to the causes of disease, and especially of epidemics, and investigate the sources of mortality, and the effects of localities, employments, and other conditions upon the public health. It shall be the duty of said board to obtain, collect, and preserve such information relating to deaths, diseases, and health as may be useful in the discharge of its duties, and contribute to the promotion of the health or the security of life in the State of New York. And it shall be the duty of all health officers and boards of health in the State to communicate to said State board of health copies of all their reports and publications; also such sanitary information as may be useful.

SEC. 7. It shall be the duty of the State board of health to have the general supervision of the State system of registration of births, marriages, and deaths, and also the registration of prevalent diseases. Said board shall prepare the necessary methods and forms for obtaining and preserving such records, and to insure the faithful registration of the same in the several counties, and in the central bureau of vital statistics at the capital of the State. The said board of health shall recommend such forms and amendments of law as shall be deemed to be necessary for the thorough organization and efficiency of the registration of vital statistics throughout the State. The secretary of said board of health shall be the superintendent of registration of vital statistics of the State. As supervised by the said board, the clerical duties and safe-keeping of the bureau of vital statistics thus created shall be provided for by the comptroller of the State, who shall also provide and furnish such apartments and stationery as said board shall require in the discharge of its duties. And the State board of health shall also prepare the necessary methods and forms and prescribe the rules regulating the issue and use of transfer permits, with the proper coupons attached thereto, to be issued by local organized boards of health, for the transportation of the dead bodies of persons which are to be carried for burial beyond the limits of the counties where the death occurs; and in all cases the said State board of health shall require coupons to be attached to such permits, to be detached and preserved by every common carrier, or the person in charge of any vessel, said railroad train, or vehicle to whom such dead bodies shall be delivered for transportation. Any violation of such rules and regulations shall be a misdemeanor.

SEC. 8. At any time the governor of the State may require the State board of health to examine into nuisances, or questions affecting the security of life and health in any locality, and in such case the said board shall have all necessary powers to make such examinations, and it shall report the results thereof to the governor within the limits of time which he shall prescribe for such examination and report. The report of such examinations when approved by the governor, shall be filed in the office of the secretary of state, and the governor may, in relation to the matters or things found and certified by the State board of health to be nuisances, declare them to be public nuisances, and order them to be abated as he shall direct, or abated and removed. Any violation of such an order shall be held and punished as a misdemeanor, and thereafter the governor may by his order, in writing, certified under his official seal, directed to the officers of the county in which the said nuisance shall be situated, require the district attorney, the sheriff, and the other officers of every such county, to take all necessary measures to execute and to have obeyed the order of the governor.

SEC. 9. At any time at the request of the State board of health, or when ver the governor shall so hereinafter provided have directed an examination and report to be made by the State board of health into any alleged nuisance, any board of health of any city of the State may appoint and select any one of its officers as its representative, during such examination of any nuisance, and such representative officer shall have a seat at, and be entitled to take part in, all

the deliberations of the State board of health during such investigation, but without the right to vote.

SEC. 10. Said board may, from time to time, engage suitable persons to render sanitary service and to make or supervise practical and scientific investigations and examinations requiring expert skill, and to prepare plans and report relative thereto. And it is hereby made the duty of all officers and agents having the control, charge, or custody of any public structure, work, ground, erection, or of any plan, description, outlines, drawings or charts thereof, or relating thereto, made, kept, or controlled under any public authority, to permit and facilitate the examination and inspection and the making of copies of the same by any officer or person by said board authorized; and the members of said board, and such other officer or person as may at any time be by said board authorized, may, without fee or hindrance, enter, examine, and survey all grounds, erections, vehicles, structures, apartments, buildings, and places. But no more than five thousand dollars in any one year shall be expended for such special sanitary service.

SEC. 11. It shall be the duty of said board, on or before the first Monday of December in each year, to make a report in writing to the governor of the State upon the vital statistics and the sanitary condition and prospects of the State; and such report shall set forth the action of said board and of its officers and agents and the names thereof for the past year, and may contain other useful information, and shall suggest any further legislative action or precautions deemed proper for the better protection of life and health. And the annual report of said board shall also contain a detailed statement of the comptroller of all money paid out by or on account of said board, and a detailed statement of the manner of its expenditure during the year last past, but its total expenditures shall not exceed the sum of fifteen thousand dollars in any one year.

SEC. 12. The sum of fifteen thousand dollars is hereby appropriated from the general fund for the purposes of this act, and the expenditures properly incurred by authority of said board and verified by affidavit, subject, however, to the limitations heretofore imposed, and shall be paid by the treasurer upon the warrant of the comptroller.

SEC. 13. This act shall take effect immediately.

ABSTRACTS FROM CONSULAR REPORTS.

MAURITIUS.—United States Consul H. C. Marston reports for the month of March a total of 818 deaths, of which 458 were from "fever." The annual death-rate was 27.5, having been 43.1 per 1,000 for the same month in 1879.

MAZATLAN, MEXICO.—United States Consul E. G. Kelton reports for the month of March 75 deaths in a population of 14,000; annual rate, 61.3 per 1,000; mean temperature, 72°. The causes of death are not given, but it is noted that 13 adults died of pulmonary diseases, and 19 children of *tetanus*, which disease seems to be remarkably fatal to children at that place.

MASSACHUSETTS.—United States Consul T. J. McLain sends reports for the four weeks from April 17 to May 15. One case of yellow fever, not fatal, is reported April 24; no cases occurred after that date, and all officials were giving clean bills of health on May 15.

QUEENSTOWN, IRELAND.—Registrar E. Spearman reports for the week ending May 22 four deaths and four births, in the city; population about 10,000. Two deaths were from consumption; other causes not stated.

SANTANDER, SPAIN.—During the month of March there were 530 deaths in a population of 255,300, giving an annual rate of 27.0 per 1,000. There were 106 deaths under 1 year, 76 from 1 to 5 years, 24 from 5 to 10, 10 from 10 to 20, 81 from 20 to 40, 75 from 40 to 60, and 45 over 60 years. Among the causes of death were, acute lung diseases 51, consumption 41, measles 13, enteric fever 13, dysentery 22, puerperal fever 17, scarlet fever 4, diphtheria 2, whooping-cough 2, diseases of the brain 16. In April, the deaths were 546, and the rate 23.2 per 1,000 per annum. The deaths for the same divisions of ages as given above were, respectively, 108, 23, 18, 8, 49, 99, and 135. Among the causes of death were, acute lung diseases 29, consumption 54, enteric fever 1, dysentery 7, diarrhoea 3, puerperal fever 2, scarlet fever 2, diphtheria 10, whooping-cough 4, and diseases of the brain 20.

SINGAPORE.—For the month of March 253 deaths are reported. Among the causes stated are, consumption 25, acute lung diseases 4, "fever" 58, diarrhoeal diseases 55; one death from leprosy. The population is not stated.

VALPARAISO, CHILE.—The report of United States Consul L. H. Foote for the month of March shows a total of 464 deaths in a population of 101,088, being at the rate of 55 per 1,000 per annum. Smallpox is still the prevailing disease and caused 125 deaths during the month.

MONTHLY REPORTS OF MORTALITY IN CITIES OF THE UNITED STATES.

Cities and States.	Month.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000—	Consumption.	Group.	Diarrheal diseases.	Diphtheria.	FEVER.				Lung diseases, acute.	Measles.	Pneumonia, acute.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents.
										Enteric.	Malarial.	Scarlet.	Yellow.							
1880.																				
Providence, R. I.	March	103,000	61	182	21.2	33	3	2	4	3	29	35	3	41	1	3	1	21	4	4
Do	April	103,000	55	191	22.2	37	1	3	6	4	32	41	1	41	1	1	1	21	4	4
New Haven, Conn.	March	60,000	37	106	21.2	16	2	1	3	1	1	20	8	2	2	1	8	21	4	4
Stamford, Conn.	April	12,000	6	24	6.0	2	1	1	3	1	1	3	1	1	1	1	1	1	1	1
Do	February	12,000	1	17	17.0	3	1	1	1	1	1	3	1	6	1	1	1	1	1	1
Do	March	12,000	4	23	23.0	4	1	1	1	1	1	6	1	6	1	1	1	1	1	1
Burlington, Vt.	February	16,000	6	19	14.2	4	1	1	1	1	1	3	1	3	1	1	1	1	1	1
Do	March	16,000	10	19	14.2	4	1	1	1	1	1	3	1	3	1	1	1	1	1	1
Do	April	16,000	6	15	11.2	2	1	1	2	1	1	2	1	2	1	1	1	1	1	1
Amsterdam, N. Y.	March	8,000	7	10	10.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Do	April	8,000	3	9	13.5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Elmira, N. Y.	March	29,436	6	24	14.1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Do	April	29,436	7	24	14.1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Little Falls, N. Y.	do	5,900	2	14	28.5	4	1	1	1	1	1	3	1	3	1	1	1	1	1	1
Rochester, N. Y.	do	90,000	19	139	18.5	14	3	2	1	3	3	19	12	12	1	2	1	1	1	1
Syracuse, N. Y.	March	35,000	22	106	23.1	17	3	2	1	3	1	26	12	12	1	2	1	1	1	1
Do	April	35,000	25	82	17.9	9	3	2	1	6	1	12	12	12	1	2	1	1	1	1
Troy, N. Y.	February	48,820	26	115	28.3	43	2	6	8	9	13	6	6	6	1	1	1	1	1	1
Do	March	48,820	60	150	36.9	44	6	12	11	9	19	12	12	12	1	1	1	1	1	1
Do	April	48,820	46	136	33.4	41	6	12	10	5	17	14	14	14	11	2	1	1	1	1
Elizabeth, N. J.	March	28,000	35	33	13.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Do	April	28,000	36	33	13.4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hudson County, N. J.	January	209,000	113	303	17.4	52	13	3	7	2	14	53	3	3	1	3	1	52	18	18
Do	February	209,000	112	301	17.3	51	15	2	6	4	8	19	43	1	6	1	1	71	18	18
Do	March	209,000	138	343	18.4	17	17	8	10	3	7	43	3	2	2	1	1	66	18	18
Do	April	209,000	118	304	17.5	37	2	6	9	1	8	10	37	3	9	1	1	56	8	8
Paterson, N. J.	March	40,000	28	83	24.9	11	1	1	1	1	3	15	3	1	1	1	1	1	8	5
Do	April	40,000	28	75	22.5	12	2	1	1	1	3	10	1	1	1	1	1	1	1	1
Yonkers, N. Y.	March	8,000	3	11	16.5	3	1	1	1	1	1	5	1	5	1	1	1	1	1	1
Do	April	8,000	3	11	16.5	3	1	1	1	1	1	5	1	5	1	1	1	1	1	1
Scranton, Pa.	March	40,000	7	32	9.6	6	2	1	1	1	2	3	1	3	1	2	1	7	3	3
Do	April	40,000	12	30	9.6	5	1	1	1	1	2	3	1	3	1	2	1	7	1	1
Washington, Del.	March	44,000	29	86	22.5	19	3	2	1	3	1	14	2	14	2	4	1	5	37	16
District of Columbia	do	170,000	132	334	23.0	78	3	5	1	5	1	58	4	4	1	1	1	37	16	16
Do	April	170,000	131	325	23.0	67	5	6	3	2	3	53	3	3	1	1	1	6	40	8
Norfolk, Va.	March	25,200	23	45	20.6	6	1	1	1	1	2	13	7	13	7	1	1	1	11	1
Do	April	25,200	26	50	23.8	3	1	1	1	1	4	13	7	13	7	1	1	1	20	4
Petersburg, Va.	do	25,000	14	35	26.4	9	1	1	1	1	1	11	7	11	7	1	1	1	1	1
Do	May	25,000	17	45	21.6	7	1	1	1	1	1	11	7	11	7	1	1	1	1	1
Selma, Ala.	March	7,070	4	12	20.4	4	1	1	1	1	1	2	1	2	1	1	1	1	1	1
Do	April	7,070	5	14	23.8	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1
Austin, Tex.	do	16,000	10	19	7.5	2	1	1	1	1	1	3	1	3	1	2	1	1	1	1
Waco, Tex.	March	11,000	4	14	15.3	3	1	1	1	1	1	3	1	3	1	2	1	1	1	1
Nashville, Tenn.	do	37,000	14	61	18.8	15	4	2	3	1	1	8	3	8	3	1	1	1	4	4
Do	April	37,000	23	39	19.1	9	4	2	3	1	1	5	5	5	1	1	1	6	3	3
Wheeling, W. Va.	March	30,000	23	75	26.0	3	1	1	1	1	1	8	3	8	3	1	1	1	1	1
Do	April	30,000	24	70	16.8	5	1	2	2	1	1	10	3	10	3	1	1	1	9	6
Toledo, Ohio	do	50,000	44	80	19.2	8	1	2	1	1	2	26	4	26	4	1	1	1	14	1
Battle Creek, Mich.	do	7,500	2	3	3.2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lansing, Mich.	do	10,000	4	12	14.4	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1
Do	April	10,000	12	17	20.4	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1
Chicago, Ill.	March	500,000	408	824	19.8	80	44	19	72	8	7	28	163	32	8	10	216	18	18	18
Do	April	500,000	468	885	21.2	79	41	19	59	11	3	26	212	24	10	9	2	200	23	23
Milwaukee, Wis.	March	127,000	91	185	17.5	15	8	2	2	2	5	28	3	28	3	2	1	46	5	5
Do	April	127,000	8	19	14.2	1	1	1	1	1	1	3	1	3	1	2	1	1	1	1
Racine, Wis.	do	16,000	8	15	11.2	1	1	1	1	1	1	3	1	3	1	1	1	1	1	1
Do	April	16,000	8	15	11.2	1	1	1	1	1	1	3	1	3	1	1	1	1	1	1
Watertown, Wis.	March	11,000	6	17	18.5	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1
Do	April	11,000	9	16	17.5	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1
Minneapolis, Minn.	March	54,000	20	54	12.0	4	1	1	1	1	1	10	1	10	1	1	1	1	1	1
Do	April	54,000	7	35	7.8	7	1	1	1	1	1	6	1	6	1	1	1	1	1	1
Saint Paul, Minn.	February	51,000	13	49	11.5	7	1	1	1	1	1	9	1	9	1	1	1	1	1	1
Do	March	51,000	15	44	10.4	8	1	1	1	1	1	5	1	5	1	1	1	1	1	1
Keokuk, Iowa	do	15,000	6	22	16.7	7	1	1	1	1	1	8	1	8	1	1	1	1	1	1
Do	April	15,000	6	20	15.2	1	1	1	1	1	1	8	1	8	1	1	1	1	1	1
Lawrence, Kans.	do	8,500	3	7	9.9	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1
Virginia City, Nev.	do	16,000	5	14	10.5	4	1	1	1	1	1	2	1	2	1	1	1	1	1	1
Los Angeles, Cal.	do	14,000	2	19	17.3	2	1	1	1	1	1	4	1	4	1	1	1	1	1	1
Oakland, Cal.	March	42,500	13	39	11.0	8	3	2	1	1	1	9	1	9	1	1	1	1	1	1
Do	April	42,500	15	37	10.4	3	1	1	1	1	1	9	1	9	1	1	1	1	1	1
Santa Barbara, Cal.	February	4,000	2	7	21.0	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Do	March	4,000	2	7	21.0	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Do	April	4,000	2	6	18.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
San Francisco, Cal.	do	305,000	384	15.1	67	2	6	4	8	4	3	49	4	49	4	5	5	5	5	5
Vallejo, Cal.	do	7,500	5	8.0	1	1	1	1	1	1	1	3	1	3	1	1	1	1	1	1

NOTES.—The following additional items are noted from the reports, which are not given in them with sufficient uniformity to admit of arrangement in the above table:

Providence, R. I.—Of the 182 deaths in March, 82 were of American parentage, 69 Irish, 14 English, and 6 Scotch; five other nationalities make up the 11 remaining. The greatest number of deaths from causes not noted in the table was 11 from heart diseases; ten deaths were ascribed to old age. There were 11 still-births, 8 of American and 3 of foreign parentage. Scarlet fever caused 35 deaths in February, against 29 in March. Of the total number of deaths,

173 were among whites, giving an annual death-rate of 20.9; colored, 9 deaths, and death-rate 28.4. In April there were 191 deaths, of which 143 were of American parentage, 84 Irish, 13 English, and the remainder divided among six nationalities. Diseases of the brain caused 10 deaths, of the heart 6, and 6 died of old age. There were 9 still-births, 5 of American and 4 of foreign parentage. Scarlet fever caused 32 deaths, showing an increase of 3 over the previous month. With regard to color, there were 184 white and 7 colored decedents; death-rate for the whites 22.2, for the colored 22.1.

New Haven, Conn.—The mean temperature for the month of March was 36.7; maximum daily mean, 56.2 on the 5th; minimum, 23.2

on the 11th. Prevailing winds, N. W. Rain-fall, 5.68 inches, rain or snow falling on 15 days. Mean daily range of temperature, 15°-2. In April the mean temperature was 49°-3; maximum daily mean, 61°-2 on the 14th; minimum, 36°-2 on the 7th. Prevailing winds, south. Rain-fall, 3.69 inches, rain or snow falling on 14 days. Mean daily range of thermometer, 17°-8.

Burlington, Vt.—Still-births are included in the report; deduct for February, 1, for March, 2, for April, 3. The mean temperature for the three months was 25°-4, 27°-5, and 43°-6. Rain-fall, 0.62, 0.97, and 1.73 inches.

Troy, N. Y.—During the three months there were 21 still-births, not included in the report of deaths.

Elizabeth, N. J.—The reports are made to the 15th of each month; the causes of death are not stated.

Scranton, Pa.—In March, 12 marriages are reported and 67 births; in April, 12 marriages and 42 births.

Wilmington, Del.—One still-birth and one premature birth are not included in the report of mortality. Of the 46 deaths 68 were white, giving an annual death-rate of 20.9; colored, 15 deaths; annual rate 43.2.

District of Columbia.—In March the deaths were 155 white and 199 colored; annual death-rates, white 16.3, colored 42.6. In April the deaths were 160 white and 165 colored; annual rates, white 16.8, colored, 35.3. The births reported in March were 427, giving an annual rate of 30.1 per 1,000; of these, 221 were white, and 206 colored; annual birth-rates 23.2 for the white, and 44.1 for the colored population. In April there were 310 births, giving an annual rate of 21.9 per 1,000; of these 140 were white and 170 colored; annual birth-rates, 11.7 for the white, and 36.4 for the colored population. The marriages reported in March were 66; white 46, colored 20; in April 55; white 41, colored 14. Still-births reported in March, 42; 10 white, 32 colored; in April 28, 10 white, 18 colored. In March the highest daily mean temperature was 68°-2, on the 5th; lowest, 28°-7, on the 13th; mean for the month, 42°-2. Mean daily range of temperature, 15°-8; greatest, 30°, on the 22d; least, 5°, on the 12th and 15th. Prevailing winds, N. N. W. Total rain-fall 5.60 inches, rain or snow falling on 18 days. In April the daily means were 71°-2 on the 16th and 34°-5 on the 11th; mean for the month, 55°-7; mean daily range of temperature, 22°-5; greatest, 37°, on the 1st; least, 6°, on the 11th. Prevailing winds, south. Total rain-fall 3.81 inches, rain falling on 11 days.

Norfolk, Va.—Still-births in March, 3 white, 3 colored; in April, 1 white, 1 colored. Deaths in March, 18 white, 27 colored; annual rates per 1,000, white 14.5, colored 28.7. Deaths in April, 27 white, 36 colored; annual rates per 1,000, white 21.8, colored 38.2. Observations of weather: March, mean temperature 48°-5; highest, 81°, lowest, 27°. Prevailing winds N. Rain-fall, 5.31 inches. In April, mean temperature 60°-7; highest, 81°, lowest, 27°. Prevailing winds S. W. Rain-fall, 1.83 inches.

Petersburg, Va.—Population, 12,000 white, 13,000 colored; deaths in April, 21 white, annual rate per 1,000, 21.0; colored, 31, annual rate 28.6. Deaths in May, 18 white, 27 colored; annual rates, white 18.0, colored 25.0. Still-births in April, 11, white 3, colored 11; in May, 1 colored. Marriages in April, 3 white, 9 colored; in May, 6 white, 9 colored.

Selma, Ala.—Population, 3,082 white, 3,988 colored. Deaths in March, 2 white, 10 colored; annual rates per 1,000, white 7.7, colored 30.0. Deaths in April, 9 white, 5 colored; annual rates, white 35.0, colored 15.0. Births in March, 7 white, 7 colored; in April, 9 white, 6 colored. Total, 16 white, 13 colored.

Austin, Tex.—One still-birth not included in the report. Deaths, 6 white, 4 colored; annual rates per 1,000, white 6.0, colored 12.0. Total rain-fall in the year 1879, 18.34 inches; highest temperature, 100°; lowest, 16°.

Harris, Tex.—Population, 6,000 white, 5,000 colored. Deaths, 12 white, 2 colored; annual rates per 1,000, white 24.0, colored 1.8.

Nashville, Tenn.—Deaths in March, 28 white, 34 colored; rates per 1,000, white 12.9, colored 35.9. Deaths in April, 33 white, 26 colored; rates per 1,000, white 15.2, colored 28.3. In the two months there were 15 still-births and premature births, not included in the mortality. In March the mean temperature was 51°-7; highest daily mean,

60°-7 on the 4th; lowest, 35°-7 on the 16th. Rain fell on 17 days; total, 8.03 inches. In April the mean temperature was 63°-5; highest daily mean, 79°-7 on the 24th; lowest, 45°-2 on the 7th and 11th. Rain fell on 10 days; total, 5.26 inches.

Toledo, Ohio.—Still-births in March, 4, in April, 8; total, 11, to be deducted from the mortality in the table.

Chicago, Ill.—Still-births, 37; premature births, 23, in March. In April, still-births, 45; premature births, 24; not included in the report of deaths. In March the mean temperature was 38°-8; highest daily mean, 54°-2, on the 3d; lowest, 25°, on the 12th. Extreme temperature, 60° and 19°. Prevailing winds, S.W.; rain or snow on 13 days; total rain-fall, 2.23 inches. In April the mean temperature was 49°; highest daily mean, 68°-2, on the 18th; lowest, 33°-2, on the 11th. Extreme temperatures, 80° and 27°. Prevailing winds, S.W.; rain on 19 days; total rain-fall, 5.2 inches.

Milwaukee, Wis.—Mean temperature for March, 41°-1; highest, 53°; lowest, 10°; greatest daily range, 30°; least, 3°. Prevailing winds, W.; rain or snow on 16 days; total rain-fall, 1.16 inches.

Minneapolis, Minn.—For March the mean temperature was 26°-6; highest daily mean, 47°, on the 30th; lowest, 5°-5, on the 14th. Highest temperature noted, 56°, on the 30th; lowest, 8°, on the 14th. Prevailing winds, N.W.; rain-fall, 2.7 inches; rain falling on 6 days. In April the mean temperature was 43°-5; highest daily mean, 59°, on the 18th; lowest, 29°-2, on the 7th. Highest temperature noted, 74°, on the 21st; lowest, 30°, on the 6th and 19th.

St. Paul, Minn.—In February the highest temperature was 59°, on the 21st; lowest, 18° below zero, on the 4th; mean temperature, 20°-3. Prevailing winds, S. E.; rain-fall, 0.97 inches; rain or snow falling on 10 days. In March the highest temperature was 62° on the 23d; lowest, 7° below zero, on the 14th; mean temperature 29°-2. Prevailing winds, S. E. Rain-fall, 2.3 inches; rain or snow falling on 14 days. River opened on the 28th.

Keokuk, Iowa.—Mean temperature for March 40°-7; highest, 70°; lowest, 12°. Prevailing winds, S.E. Rain-fall 1.81 inches; rain or snow falling on 13 days. Mean temperature for April, 54°-8; highest, 81°; lowest, 29°. Prevailing winds, N. Rain-fall 4.79 inches; rain or snow falling on 9 days.

Oakland, Cal.—March, 64 births to 39 deaths. April, 61 births to 37 deaths. The form for monthly reports from this city is the only one that gives the details of sanitary inspection and of absence of pupils from public schools on account of sickness.

DIPHTHERIA.

The State board of health of Wisconsin issues gratuitously a little pamphlet entitled "Suggestions for the Restriction and Prevention of Diphtheria." The observations and directions are eminently practical, and this method of disseminating such information among the people would probably give much aid to the work of all boards of health.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

COLUMBUS, MISS.—Under date of June 2, Dr. B. A. Vaughan, health officer of Lowndes County, Mississippi, reports a case of small-pox on a plantation three and a half miles north of Columbus. The origin of the disease was not certainly known, but the contagion is believed to have come from a camp of gypsies near by. Isolation of the case and vaccination of all exposed persons have been enforced.

HAVANA, CUBA.—Advises to May 29 state that there were 10 deaths from yellow fever during the week ending May 25. Six of these were in the city, and four among the military. The cool and windy weather noted in the last report continues, with the effect of reducing the number of cases and deaths from yellow fever. During the week there were 18 deaths from small-pox.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MAY 29, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Croup.	Diphtheria.	Diphtheria.	FEVER.					Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents.
									Enteric.	Malarial.	Scarlet.	Yellow.								
Me.....Portland.....	36,400	6	14	20.0	4							2								
N. H.....Concord.....	14,000	7	10	37.2		1		1												
Mass.....Boston.....	375,000	61	157	39.8	47	1	3	12	2				24			1			21	9
.....Cambridge.....	50,400	5	15	15.5		1							3							
.....New Bedford.....	27,600	6	12	23.1	1							1	1						3	
.....Newburyport.....	13,800	1	2	7.5																
.....Marblehead.....	7,500	1	1	6.9																
.....Plymouth.....	6,334	1	5	41.1	1							1	1							
.....Lawrence.....	40,000	6	10	13.0	3										3					
.....Worcester.....	52,000	6	20	20.0	2								5	1		1				
.....Lowell.....	54,000	8	18	17.3	6		1						1	1					2	
.....Lynn.....	37,000	7	9	9.8	3															
.....Brockton.....	13,000	1	1	4.0			1													
.....Holyoke.....	20,000	2	9	23.4	1				1											
.....Milford.....	10,000	1	1	5.2	1															
.....Chicopee.....	11,000	3	3	14.2					1					2						
.....Somerville.....	23,500	5	11	11.1	2					1										
.....Springfield.....	31,000	1	8	13.2	1														2	
.....Fitchburg.....	12,600	4	4	16.5																
R. I.....Providence.....	103,000	15	42	21.2	2					5		8	4							3
Conn.....New Haven.....	60,000	3	16	13.9	2		1						2					1	3	
.....Waterbury.....	20,000	2	6	15.6				1												
.....New Britain.....	12,000	2	2	8.7	1															
Vt.....Burlington.....	16,500	3	5	15.8	1		3												2	
N. Y.....New York.....	1,109,820	311	663	32.1	82	9	47	15	3	12	7	16	131	18	10	1	6	6	151	31
.....Brooklyn.....	561,418	226	531	24.1	31		13	16	3	7	4	4	34	10	3			6	64	9
.....Yonkers.....	20,000	1	4	10.4	1															
.....Poughkeepsie.....	21,000	4	17	42.2	1		1			1			2							
.....Newburgh.....	17,800	1	4	11.8																
.....Utica.....	35,000	6	6	8.9																
.....Rochester.....	90,000	6	35	20.3	3	1			1		2		3	2					6	3
.....Binghamton.....	18,000	1	1	2.8	1															
.....Seneca Falls.....	6,300	2	2	16.5	1								1							
.....Watertown.....	12,000	2	4	17.3																
N. J.....Hudson County.....	209,000	43	88	21.9	3	2	2			1	3	3	11		5				13	6
.....Plainfield.....	8,000	4	4	26.0	1								1							
Pa.....Philadelphia.....	901,380	98	306	17.7	56	7		4	5		1	8	18	2		1	2			
.....Erie.....	30,000	2	6	10.4									3						2	
.....Pittsburgh.....	150,000	26	58	20.1	6		1	1	4			3	5	2				2	15	4
Del.....Wilmington.....	44,000	11	23	26.6	6			2		1			1		1					
Md.....Baltimore.....	101,000	19	130	19.5	15	2	43	6	1	2	6		8					3	62	2
District of Columbia.....	170,000	48	88	26.4	16		23	1	3	1			2					1	31	5
Va.....Norfolk.....	26,200	17	26	31.7	3		10	2	1	1			1		1				16	
.....Richmond.....	80,000	25	46	39.0	5		13		1	1	1		1						14	1
.....Lynchburg.....	21,000	6	11	27.3	1															
N. C.....Wilmington.....	17,000	7	12	36.8	1															
S. C.....Charleston.....	12,000	12	38	34.7	7		1		2											
Ga.....Augusta.....	27,000	7	8	15.4									1			1				
.....Atlanta.....	41,548	11	17	23.1																
.....Rome.....	5,000	2	4	41.7																
Fla.....Jacksonville.....	12,000	2	4	17.3	1		1													1
Ala.....Selma.....	7,070	1	1	7.2																
Miss.....Vicksburg.....	15,000	3	4	13.9	1		1			1			1							
La.....New Orleans.....	210,000	66	138	34.2	18		16	1		3	2		1	14				1	3	
.....Shreveport.....	9,500	2	6	32.9	1									2						
Tex.....Austin.....	16,000	3	5	16.3																
.....San Antonio.....	23,000	7	12	27.2	3		3						1	1						2
Ark.....Browsville.....	5,500	1	3	28.4	1															
.....Little Rock.....	22,000	4	9	21.3	2															
Tenn.....Nashville.....	32,000	17	21	29.6	3				3	1			3					1	9	
.....Chattanooga.....	12,880	3	5	20.2	1															
.....Clarksville.....	6,000	2	6	52.1	1					1										
Ky.....Louisville.....	175,000	44	76	22.6	11		9			1	1		13	3				2	15	2
Ohio.....Cincinnati.....	294,000	70	134	24.1	13		18		1		1	3	10	4				8	39	3
.....Cleveland.....	175,000	54	161	14.1	4		1	4	2				4		1					1
.....Dayton.....	39,000	5	10	13.3	1								1							
.....Gallipolis.....	5,300	3	5	17.4	1															
Mich.....Lansing.....	10,000	1	4	20.8	1					1	1	1								
Ind.....Evansville.....	40,000	8	13	16.9									3	1						
.....Indianapolis.....	100,000	10	24	12.5	4					2	1		3						6	1
.....Richmond.....	14,000	1	2	7.4																
Ill.....Chicago.....	500,000	67	135	14.0	10	5	12	5	2	2	3		21	1	3			3	36	4
.....Peoria.....	40,000	1	7	9.1																
.....Aurora.....	14,550	2	2	7.1																
.....Elgin.....	8,500	1	3	18.4																
Wis.....Milwaukee.....	127,000	18	38	15.6		1		3					1			2			9	1
.....Beloit.....	5,000																			
Minn.....Saint Paul.....	51,000	9	11	11.2	1								3							1
Iowa.....Burlington.....	26,000	3	12	24.0	1														4	
.....Dubuque.....	30,000	5	5	8.7																
Mo.....Saint Louis.....	500,000	47	104	10.8	15	1	14	1	1	1	1	1	5		1			22		4
.....Sedalia.....	12,000	3	3	13.0																
Neb.....Omaha.....	12,000	5	7	12.1	1															
Utah.....Salt Lake City.....	25,000	7	15	31.3	1	1		7					2	1					9	1

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING MAY 29, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.	Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Group.	FEVER.										All zymotic diseases.	Accidents.		
							Diarrheal diseases.	Diphtheria.	Enteric.	Malarial.	Scarlet.	Yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.			Whooping-cough.	
Cal.....	San Francisco.....	305,000	23	80	13.6	10	.....	3	.....	.....	.....	.....	6	.....	1	.....	.....	6	2
	Sacramento.....	25,000	12	5	10.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Los Angeles.....	14,000	4	4	14.9	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
	Vallejo.....	7,500	2	13	13.9	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....		8,062,010	1,431	3,272	21.1	424	34	269	84	43	41	75	359	70	37	3	39	367	113

NOTE.—Boston has 370,000 white, 5,000 colored; deaths, 153 white, 4 colored. Rate per 1,000, white 21.5, colored 41.7. Providence has 99,000 white, 3,800 colored; deaths, 42 white, 10 colored. Rate in table. Wilmington, Del., has 39,000 white, 6,000 colored; deaths, 16 white, 7 colored. Rate per 1,000, white 21.4, colored 60.8. Baltimore has 343,715 white, 56,285 colored; deaths, 151 white, 39 colored. Rate per 1,000, white 22.7, colored 36.1. District of Columbia has 114,000 white, 26,000 colored; deaths, 38 white, 48 colored. Rate per 1,000, white 17.4, colored 45.0. Norfolk has 14,900 white, 11,200 colored; deaths, 10 white, 16 colored. Rate per 1,000, white 25.0, colored 73.8. Richmond has 46,000 white, 34,000 colored; deaths, 23 white, 23 colored. Rate per 1,000, white 26.0, colored 35.3. Lynchburg has 10,000 white, 11,000 colored; deaths, 2 white, 9 colored. Rate per 1,000, white 10.4, colored 42.6. Wilmington, N.C., has 6,714 white, 10,286 colored; deaths, 4 white, 8 colored. Rate per 1,000, white 31.0, colored 46.5. Charleston has 25,000 white, 32,000 colored; deaths, 15 white, 25 colored. Rate per 1,000, white 31.3, colored 37.5. Augusta has 16,176 white, 10,824 colored; deaths 5 white, 4 colored. Rate per 1,000, white 16.1, colored 19.2. Atlanta has 25,573 white, 16,175 colored; deaths, 7 white, 10 colored. Rate per 1,000, white 14.3, colored 32.2. Jacksonville has 7,000 white, 5,000 colored; deaths 1 white, 3 colored. Rate per 1,000, white 7.4, colored 31.2. Selma has 3,082 white, 3,588 colored; deaths, 1 white. Rate in table. New Orleans has 155,000 white, 55,000 colored; deaths, 88 white, 30 colored. Rate per 1,000, white 29.6, colored 47.4. Shreveport has 4,500 white, 5,000 colored; deaths, 1 white, 5 colored. Rate per 1,000, white 11.6, colored 52.1. Austin has 12,000 white, 4,000 colored; deaths, 5 colored. Rate in table. Nashville has 26,000 white, 11,000 colored; deaths, 12 white, 9 colored. Rate per 1,000, white 24.0, colored 42.6. Chattanooga has 7,800 white, 5,020 colored; deaths, 2 white, 3 colored. Rate per 1,000, white 13.2, colored 31.2. Clarksville has 3,000 white, 3,000 colored; deaths, 1 white, 1 colored. Rate per 1,000, white 17.3, colored 17.3. Louisville has 133,125 white, 21,875 colored; deaths, 51 white, 25 colored. Rate per 1,000, white 17.3, colored 59.6. Total white population, 1,467,445; total deaths, 623; annual rate per 1,000, 22.1. Total colored population, 386,553; total deaths, 312; annual rate per 1,000, 41.4.

The following reports, for the week ending May 29, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 4,000; one death. East Haven, Conn., 1,200; no deaths. Edgartown, Mass., 1,400; one death. Fairfield, Conn., 4,000; 2 deaths. Franklin, Ind., 4,000; no deaths. Morgan City, La., 2,500; no deaths. Nantucket, Mass., 3,000; old age, 1. Saint Augustine, Fla., 2,500; deaths, 2; consumption 1. San Diego, Cal., 3,000; no deaths. Shelbyville, Tenn., 2,400; old age, 1. Total population, 27,600; deaths under 5 years, none; total deaths, 8; annual rate per 1,000, 15.1.

The following reports, for the week ending May 29, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 5; consumption 1, diphtheria 1, old age 1. Allegheny, Pa., 75,000; deaths, 14; under 5 years, 8; diarrhoea 1, diphtheria 1, enteric fever 1. Bath, Me., 10,000; no deaths. Battle Creek, Mich., 7,500; pneumonia 1. Boulder, Colo., 3,500; one death. Brattleborough, Vt., 6,500; one death. Calais, Me., 7,000; deaths, 2; consumption 1. Cambridge, N. Y., 1,500; pneumonia 1. Carrollton, Miss., 600; no deaths. Cedar Keys, Fla., 1,500; no deaths. Circleville, Ohio, 6,400; no deaths. Clinton, Mich., 1,200; diarrhoea 1, under 5 years. Columbus, Ga., 10,000; deaths, 4; under 5 years, 2; consumption 1, diarrhoea 2, pneumonia 1. Corinth, Miss., 2,300; no deaths. Crystal Springs, Miss., 1,000; no deaths. Cumberland, Md., 12,000; deaths, 2; consumption 1, old age 1. Dallas, Tex., 20,000; deaths, 3; under 5 years, 1; consumption 1. Davenport, Iowa, 27,000; deaths, 8; under 5 years, 2; consumption 1, diphtheria 1, malarial fever 2, pneumonia 1, old age 2. Deatur, Miss., 1,000; no deaths. Fayette, Miss., 300; no deaths. Gunn City, Mo., 125; no deaths. Helena, Mont., 3,500; deaths, 3; under 5 years, 1. Huntington, Pa., 4,500; one death. Huntington, Tenn., 850; no deaths. Indianapolis, Tex., 900; no deaths. Iuka, Miss., 1,000; enteric fever 1. Jefferson, Texas, 3,400; no deaths. Kenosha, Wis., 6,000; consumption 1. Lanesborough, N. Y., 7,150; deaths, 6; under 5 years, 2; consumption 1, croup 1, lung diseases 2. Lebanon, Pa., 9,000; deaths, 2; under 5 years, 1; Little Falls, N. Y., 5,900; one death. Louisiana, Mo., 5,200; no deaths. Madison, Ind., 12,000; deaths, 5; under 5 years, 4; bronchitis 1, scarlet fever 1. Martinsburg, W. Va., 6,000; deaths, 2; under 5 years, 1; consumption 1, diarrhoea 1. Millidgeville, Ga., 4,000; two deaths. Mount Pleasant, Iowa, 5,000; one death. Muscatine, Iowa, 7,500; deaths, 3; consumption 1, scarlet fever 2. Natchez, Miss., 10,000; deaths, 2; under 5 years, 1; diarrhoea 2. Nebraska City, Neb., 5,000; measles 1, under 5 years. Okolona, Miss., 3,000; no deaths. Oshkosh, Wis., 18,000; one death. Painesville, Ohio, 5,000; consumption 1. Perlington, Miss., 1,500; no deaths. Phenixville, Pa., 6,000; deaths, 3; under 5 years, 1; pneumonia 1. Pomeroy, Ohio, 6,200; deaths, 5; consumption 3, diphtheria 1, scarlet fever 1. Pontotoc, Miss., 600; no deaths. Port Gibson, Miss., 1,400; no deaths. Port Jervis, N. Y., 10,000; deaths, 2; diarrhoea 1, Port-

month, Va., 14,000; deaths, 7; under 5 years, 3; diarrhoea 2. Putaski, Tenn., 2,100; no deaths. Ripley, Miss., 1,000; one death. Rock Island, Ill., deaths, 6; population not given. Rockland, Me., 7,000; no deaths. Santa Cruz, Cal., 5,000; two deaths. Senatobia, Miss., 1,500; one death. Springfield, Ohio, 23,000; deaths, 11; under 5 years, 3; consumption 1, diarrhoea 3. Starkville, Miss., 1,163; no deaths. Steubenville, Ohio, 13,500; two deaths. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; one death. Tuscaloosa, Ala., 4,000; deaths, 3; consumption 1, diarrhoea 1, enteric fever 1. Vero, Miss., 1,000; no deaths. Waco, Tex., 11,000; deaths, 2; consumption 1, diarrhoea 1. Waterbury, Wis., 12,000; deaths, 13; under 5 years, 4; consumption 1, diarrhoea 1, diphtheria 3, scarlet fever 5. Wesson, Miss., 2,000; deaths, 2; whooping-cough 1, under 5 years. Winchester, Va., 5,500; no deaths. Winona, Minn., 10,000; diphtheria 1. Youngstown, Ohio, 17,000; deaths, 4; under 5 years, 2; consumption 1, pneumonia 1, measles 1, whooping-cough 1. Total population, 146,435; deaths under 5 years, 35; total deaths, 136; annual rate per 1,000, 14.6.

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The total numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortuary reports.

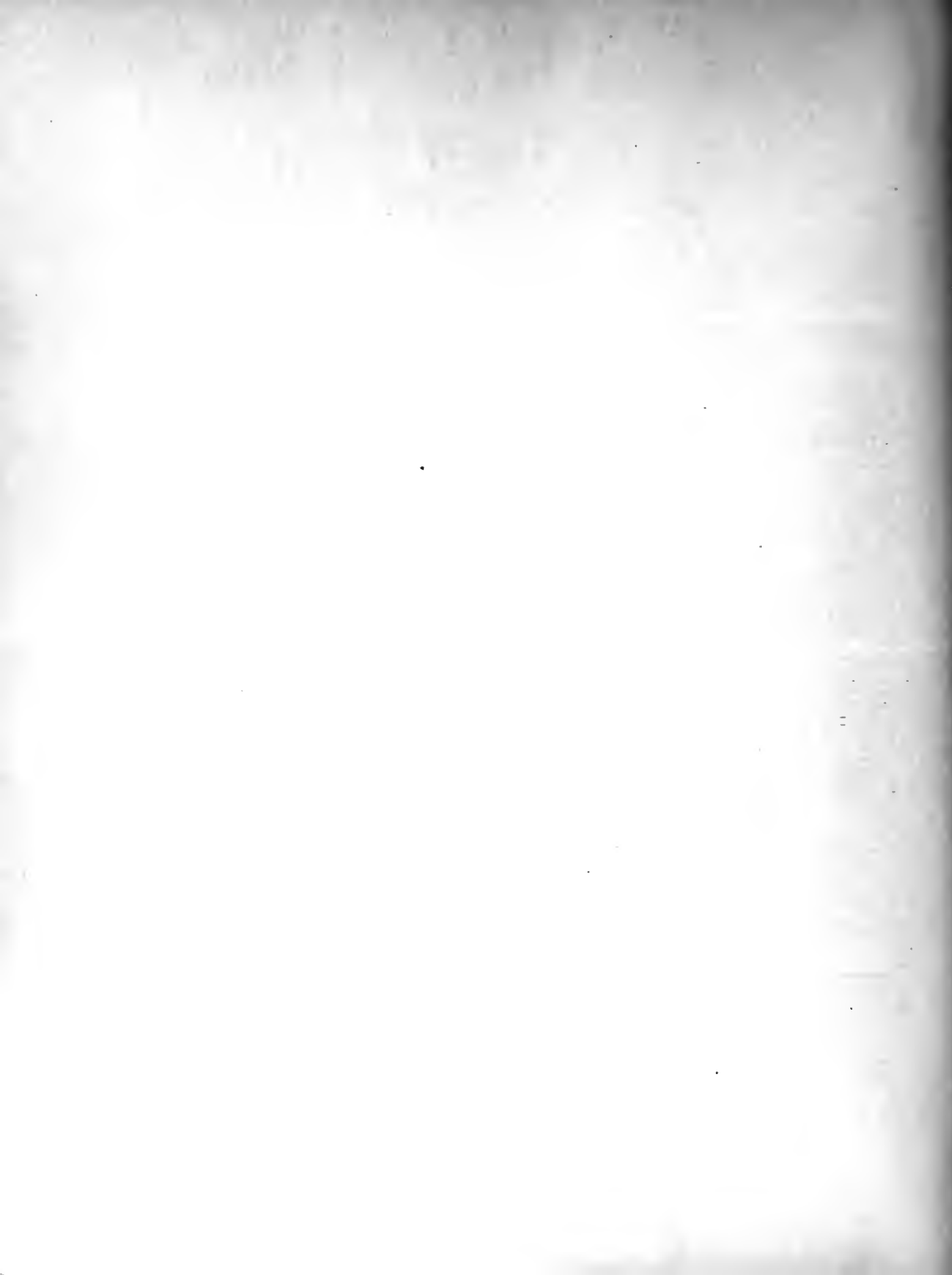
NOTICE.—Extra copies of the BULLETIN will be furnished at this office at the rate of *five cents* per copy. Notice of at least one week should be given when a large number is required.

	Small- pox.	Totals.
1870	10	10
1871	10	10
1872	10	10
1873	10	10
1874	10	10
1875	10	10
1876	10	10
1877	10	10
1878	10	10
1879	10	10
1880	10	10
1881	10	10
1882	10	10
1883	10	10
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1985	10	10
1986	10	10
1987	10	10
1988	10	10
1989	10	10
1990	10	10
1991	10	10
1992	10	

Name of Hospital.	Place.	Character of Hospital.	Number of In- Patients	Admitted. Males.	Admitted. Females.	Remaining. Males.	Remaining. Females.	Admitted. Total.	Remaining. Total.	Admitted. Males.	Admitted. Females.	Remaining. Males.	Remaining. Females.	Admitted. Total.	Remaining. Total.
Hartford Hospital.	Hartford, Conn.	General.	150	80	1	1	1	81	1	13	1	1	1	14	2
Albany, N. Y.	Albany, N. Y.	do	125	27	10	1	1	28	1	1	1	1	1	2	2
Albany, N. Y.	Albany, N. Y.	do	125	27	10	1	1	28	1	1	1	1	1	2	2
Went's Island, N. Y.	Went's Island, N. Y.	do	400	71	2	6	73	77	6	112	134	2	6	138	142
German Hospital.	New York City.	do	300	217	440	4	4	664	4	18	236	1	211	237	215
Hart's Island Hospital.	Hart's Island, N. Y.	do	300	217	440	4	4	664	4	18	236	1	211	237	215
San Bernardino Hospital.	Pomona, Cal.	do	1	1	1	1	1	2	1	1	1	1	1	2	2
Rock-ledge City Hospital.	Rochester, N. Y.	do	125	72	1	1	73	74	1	1	1	1	1	2	2
Saint Marc's Hospital.	Rochester, N. Y.	do	320	230	1	1	231	231	1	1	1	1	1	2	2
Green Hospital.	New York, N. Y.	do	20	17	1	1	18	18	1	1	1	1	1	2	2
Saint Michael's Hospital.	Pittsburgh, Pa.	do	120	126	2	2	128	130	2	2	2	2	2	4	4
Homopathic Hospital.	Pittsburgh, Pa.	do	40	29	1	1	30	30	1	1	1	1	1	2	2
Saint Francis Hospital.	Providence, R. I.	do	125	50	1	1	51	52	1	1	1	1	1	2	2
Providence Hospital.	Providence, R. I.	do	100	126	2	2	128	130	2	2	2	2	2	4	4
Augusta, Ga.	Augusta, Ga.	do	50	18	1	1	19	20	1	1	1	1	1	2	2
Georgia Infirmary.	Savannah, Ga.	do	50	30	1	1	31	32	1	1	1	1	1	2	2
Charity Hospital.	Cleveland, Ohio	do	120	126	2	2	128	130	2	2	2	2	2	4	4
Saint Luke's Hospital.	Detroit, Mich.	do	25	12	1	1	13	14	1	1	1	1	1	2	2
Alexander Hospital.	Chicago, Ill.	do	85	15	1	1	16	17	1	1	1	1	1	2	2
City Hospital.	Saint Louis, Mo.	do	41	17	6	1	20	23	1	1	1	1	1	2	2
Saint John's Hospital.	St. Louis, Mo.	do	75	33	1	1	34	35	1	1	1	1	1	2	2
St. Louis Hospital.	St. Louis, Mo.	do	250	76	1	1	77	78	1	1	1	1	1	2	2
Brooklyn, N. Y.	Brooklyn, N. Y.	do	115	31	1	1	32	33	1	1	1	1	1	2	2
Washington, D. C.	Washington, D. C.	do	125	71	1	1	72	73	1	1	1	1	1	2	2
Norfolk, Va.	Norfolk, Va.	do	125	71	1	1	72	73	1	1	1	1	1	2	2
Massachusetts.	Massachusetts.	do	125	71	1	1	72	73	1	1	1	1	1	2	2
Manahat, Cal.	Manahat, Cal.	do	125	71	1	1	72	73	1	1	1	1	1	2	2
New York City.	New York City.	do	82	71	1	1	72	73	1	1	1	1	1	2	2
Special.	Special.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
Contagious diseases.	Contagious diseases.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
Children.	Children.	do	65	32	1	1	33	34	1	1	1	1	1	2	2
Philadelphia, Pa.	Philadelphia, Pa.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
Detroit, Mich.	Detroit, Mich.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.	do	120	30	1	1	31	32	1	1	1	1	1	2	2
St. Louis, Mo.	St. Louis, Mo.														

Countries.	Places.	Population.	Week ending—	1880.		Cholera.	Yellow fever.	Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.			
				Total deaths.	Annual rate per 1,000.			Cases.	Deaths.		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.			
Vancouver's Island	Victoria	5,000	May 22	1	10.1												53		
Prince Edw'd Isl'd	Charlottetown	12,000	May 29	1	4.3												55		
Canada	Kingston	16,000	May 29	2	6.5												73		
Bermuda	Hamilton	11,867	June 1	3	25.3												86		
Cuba	Havana	134,457	May 22	136	36.5												88		
St. Domingo.	San Domingo	8,000	Apr. 18	1	26.1												89		
Do	do	8,000	Apr. 25	6	39.1												812		
Do	do	8,000	May 3	3	19.6												813		
Do	do	8,000	May 9	9	22.5												814		
Do	do	8,000	May 16	42	12.0												83		
Haiti	Cape Haytien	7,500	Mar. 20	6	41.7														
Do	do	7,500	Mar. 27	11	76.5														
Do	do	7,500	Apr. 3	8	50.7														
Do	do	7,500	Apr. 10	5	34.7														
Do	do	7,500	Apr. 17	3	20.9														
Do	do	7,500	Apr. 24	10	69.6														
Do	do	7,500	May 1	10	66.6														
Do	do	7,500	May 8	14	97.4														
Do	do	7,500	May 15	7	48.7														
Do	do	7,500	May 22	7	48.7														
Do	Aux Cayes	8,000	May 8	6	29.0												70		
Do	do	8,000	May 15	3	19.6												71		
Do	Port au Prince	30,000	May 11	20	34.8												87		
Do	do	30,000	May 21	23	29.6												88		
West Indies	Tuck's & Caicos Islds	3,500	Apr. 21	1	29.8												70		
Do	do	3,500	May 1	1	29.8												70		
Do	do	3,500	May 8	1	14.9												80		
Do	do	3,500	May 15	2	29.8												82		
Do	do	3,500	May 22	3	43.7												79		
Mexico	Acapulco	3,500	May 8	3	29.0												85		
Do	do	3,500	May 15	3	43.7												85		
Tenerife	Santa Cruz	16,610	May 8	9	28.3												66		
Do	do	16,610	May 15	2	6.3														
Ireland	Corktown	10,000	May 22	1	4.4</														

NATIONAL BOARD OF HEALTH rooms are at 1410 G Street, northwest.



National Board of Health

BULLETIN.

VOL. 1.]

WASHINGTON, D. C., SATURDAY, JUNE 19, 1880.

[No. 51.]

RULES AND REGULATIONS FOR SECURING THE BEST SANITARY CONDITION OF VESSELS, INCLUDING THEIR CARGOES, PASSENGERS, AND CREWS, COMING TO THE UNITED STATES FROM ANY FOREIGN PORT WHERE ANY CONTAGIOUS OR INFECTIOUS DISEASE EXISTS.

[Prepared by the National Board of Health, in accordance with the provisions of an act approved June 2, 1879, entitled "An act to prevent the introduction of infectious or contagious diseases into the United States."]

EXPLANATIONS.

1. The object of the following rules and regulations is to prevent the introduction into the United States of "contagious or infectious diseases."

2. The following diseases are recognized as "contagious or infectious diseases" for the purposes of these rules and regulations, *viz*: Asiatic cholera, yellow fever, plague, small-pox, typhus fever, and relapsing fever.

3. An "infected" port or place, in the sense of these rules, is a port or place at which either Asiatic cholera, yellow fever, or plague exists, or at which either small-pox, relapsing fever, or typhus fever exists as an epidemic.

4. To secure the "best sanitary condition" of a vessel the following points should be observed by the owners, agents, or master of such vessel:

A. Exclusion from the vessel, as far as possible, of persons or things known or suspected to be infected.

B. Cleanliness, dryness, and ventilation of the vessel, both preliminary to loading and during the voyage.

C. Disinfection—that is, the destruction or removal of the causes of disease—which includes measures of cleanliness, ventilation, fumigation, &c.

D. The crew shall not be allowed liberty on shore after nightfall in suspected localities. They shall not be allowed to sleep on deck except under awnings. The fore-castle shall be well ventilated and kept dry. Both in port and at sea the bilge shall be pumped out each morning and evening, or more frequently if necessary. The utmost cleanliness shall be observed at sea as well as in port. Each seaman should have two suits of underclothing. The clothing and bedding should be aired every clear day. In tropical climates the men should be required to wash their persons and change their underclothing every evening after work while in port, and each working suit should be washed, dried, and aired after a day's use. These regulations as to clothing, airing of bedding, and ventilation, should, as far as possible, be observed at sea as well as in port.

RULES AND REGULATIONS.

1. All merchant ships and vessels sailing from a foreign port where contagious or infectious disease exists, for any port in the United States, must obtain from the consul, vice-consul, or other consular officer of the United States, at the port of departure, or from the medical officer—where such officer has been detailed by the President for that purpose—a bill of health in duplicate, which shall be a clean bill or a foul bill, and which shall set forth the sanitary history of said vessel, and that it has in all respects complied with these rules and regulations. A clean bill of health shall be given when neither Asiatic cholera, yellow fever, nor plague exists, and when neither small-pox, relapsing fever, nor typhus fever exists as an epidemic at the port of departure, and the condition of the vessel is satisfactory; and in such case it shall be certified that the vessel leaves the port in "free pratique." A foul bill of health shall be given when either Asiatic cholera, yellow fever, or plague exists, and when small-pox, relapsing fever, or typhus fever exists as an epidemic at the port of departure, or where the sanitary condition of the vessel is unsatisfactory, and in such case it shall be certified that the vessel leaves the port in "quarantine."

2. In all cases of doubt as to whether the port is infected, or as to the sanitary condition of the vessel, the bill shall be foul.

3. No vessel shall have more than one bill of health; but if she touches at other ports on the passage, that fact and the condition of those ports as to the existence of contagious or infectious disease shall be indorsed upon the original bill of health by the consul, vice-consul, consular officer, or medical officer of the United States.

4. The bill of health shall be in the form appended. [Form A.]

5. Each consul, vice-consul, consular officer, or medical officer of the United States in a foreign port shall keep himself thoroughly ac-

quainted with the sanitary condition of the port and its vicinity, especially with regard to the existence of contagious or infectious diseases, or epidemics, and shall upon request of the owner, agent, or master make, or cause to be made, an inspection of every ship or vessel bound for any port in the United States, and give the bill of health required by these regulations. Vessels carrying a foreign flag shall be inspected, when practicable, in company with the consul or consular agent of the nation to which the vessel belongs.

6. The fee for such inspection shall be such as may be fixed by the Secretary of the Treasury in accordance with law.

7. The certifying officer at the port of departure shall certify whether vessels carrying passengers are provided with the means of carrying out the provisions of sections 4257 and 1263 of the Revised Statutes.

SEC. 4257. Every such vessel so employed in transporting passengers between the United States and Europe, and having space according to law for more than one hundred such passengers, shall have at least two ventilators to purify each apartment occupied by such passengers; one of which shall be inserted in the after part and the other in the forward part of the apartment, and one of them shall have an exhausting-cap to carry off the foul air, and the other a receiving-cap to carry down the fresh air. Such ventilators shall have a capacity proportioned to the size of the apartments to be purified, namely: If the apartments will lawfully authorize the reception of two hundred such passengers, the capacity of each such ventilator shall be equal to a tube of twelve inches diameter in the clear, and in proportion for larger or smaller apartments. All such ventilators shall rise at least four feet six inches above the upper deck of any such vessel, and be of the most approved form and construction. If it appears from the report to be made and approved, as provided in section forty-two hundred and seventy-two, that such vessel is equally well ventilated by any other means, such other means of ventilation shall be deemed to be a compliance with the provisions of this section.

SEC. 4263. The master of any vessel employed in transporting passengers between the United States and Europe is authorized to maintain good discipline and such habits of cleanliness among passengers as will tend to the preservation and promotion of health; and to that end he shall cause such regulations as he may adopt for this purpose to be posted up, before sailing, on board such vessel, in a place accessible to such passengers, and shall keep the same so posted up during the voyage. Such master shall cause the apartments occupied by such passengers to be kept at all times in a clean, healthy state; and the owners of every such vessel so employed are required to construct the decks and all parts of the apartments so that they can be thoroughly cleansed; and also to provide a safe, convenient privy or water-closet for the exclusive use of every one hundred such passengers. The master shall also, when the weather is such that the passengers cannot be mustered on deck with their bedding, and at such other times as he may deem necessary, cause the deck occupied by such passengers to be cleansed with chloride of lime or some other equally efficient disinfecting agent. And for each neglect or violation of any of the provisions of this section the master and owner of any such vessel shall be severally liable to the United States in a penalty of fifty dollars, to be recovered in any circuit or district court within the jurisdiction of which such vessel may arrive or from which she is about to depart, or at any place where the owner or master may be found.

8. Every vessel before taking on cargo or passengers shall be clean and dry, and the certifying officer may, at his discretion, require that it shall be thoroughly disinfected at last from an *infected* port, or at the port of departure be itself *infected*. The examination of the vessel as to cleanliness shall be made before the cargo is taken on, and shall extend to all accessible parts, special care being taken to note upon the bill of health the presence of decayed wood.

9. Foul and porous stow shall not be used for ballast if it is available.

10. Merchandise or articles known to be infected shall not be received or taken on board.

11. In case the port is *infected*, the certifying authority may require that the officers, crew, and passengers shall be examined by a medical officer or physician selected for that purpose, and the result of such examination reported to him not more than twenty-four hours before certifying to the bill of health.

12. Bills of health can be considered valid only when delivered within the twenty-four hours last preceding departure. If the departure is delayed beyond this period the bill must be *re-issued* by the

authority delivering it, stating whatever changes have taken place in the sanitary condition of the port, vessel, officers, crew, or passengers.

13. When the port of departure or its vicinity is *infected*, that fact shall be noted in the bill of health, and when the sanitary or other local authority of the port declares the existence of such infection, the bill of health shall give the date of the declaration.

14. The existence of contagious or infectious disease in the quarantine establishment of a port shall not be considered cause for a full bill of health.

15. Physicians attached to sea-going vessels shall be specially charged with the duty of watching their sanitary condition and the health of their officers, crew, and passengers. On arrival of the vessel they shall report to the health officer of the port the sanitary history of the voyage.

16. In case of the occurrence at sea of Asiatic cholera, yellow fever, plague, small-pox, relapsing fever, or typhus fever, the wearing apparel and bedding used by those affected with such disease shall be boiled for not less than two hours or burnt or snuk.

17. Captains, owners, or agents of vessels shall, at the port of departure, be required to answer, under oath, to the consuls or sanitary officers all questions as to the sanitary condition of the vessel, &c.

18. Whenever any vessel shall leave an *infected* foreign port, or having on board goods or passengers coming from any place or district infected with Asiatic cholera, yellow fever, or plague, shall leave any foreign port, bound for any port in the United States, the consul, consular officer, or other representative of the United States, at or near such port, may, at his discretion, immediately give information thereof by telegraph to the National Board of Health at Washington, D. C., reporting the name, date of departure, and port of destination of such vessel. The cost of such telegrams will be paid by the National Board of Health.

19. All merchant ships or vessels from any foreign port, where any contagious or infectious disease exists, and bound for any port of the United States, must present to the health officer at the quarantine station of such port evidence that these rules and regulations have been complied with in order that such vessel may enter such port, discharge its cargo, and land its passengers.

[Form A.]

No. —, Port of —.

THE UNITED STATES OF AMERICA.—NATIONAL BOARD OF HEALTH.

Bill of health.

I, — (consul, consular agent, or other officer empowered by law to sign), at the port of —, do hereby state that the vessel hereinafter named clears from this port under the following circumstances:

Name of vessel: —.
Tonnage: —.
Aparments for passengers, No. —.
Destination: —.
Name of medical officer (if any): —.
Total number of passengers: 1st cabin, —; 2d cabin, —; steerage, —.
Nature (vessel-of-war, ship, schooner, &c.): —.
Guns: —.
Where last from: —.
Name of captain: —.
Total number of crew: —.
Cargo: —.
Sanitary history of the vessel: —.

1. Sanitary condition of vessel (before and after reception of cargo, with note of any decayed wood). Note disinfection of vessel:

2. Sanitary condition of cargo:

3. Sanitary condition of crew:

4. Sanitary condition of passengers:

5. Sanitary condition of clothing, food, water, air-space, and ventilation (to be in quantity as required by Rev. Stats.):

6. Sanitary condition of port and adjacent country —
a. Prevailing diseases (if any):

b. Number of cases of and deaths from yellow fever, Asiatic cholera, plague, small-pox, or typhus fever during the week preceding:

b. Number of cases of—	b. Number of deaths from—
Yellow fever, —.	Yellow fever, —.
Asiatic cholera, —.	Asiatic cholera, —.
Plague, —.	Plague, —.
Small-pox, —.	Small-pox, —.
Typhus fever, —.	Typhus fever, —.
Relapsing fever, —.	Relapsing fever, —.

7. Any circumstances affecting the public health existing in the port of departure to be here stated:

CLEAN.

I certify that I have personally inspected the said vessel, and that the above statements are correct; that good health is enjoyed in this port and the adjacent country, without any suspicion of yellow fever, Asiatic cholera, or plague; that neither small-pox nor typhus fever exists as an epidemic; that the sanitary condition of the vessel, cargo, crew, and passengers is good; that the rules and regulations prescribed by the National Board of Health have been complied with, and that the [name of vessel] leaves this port in *free pratique*, bound for —, U. S. of A.

[Signature of medical officer.]

Or,

FOUL.

I certify that I have personally inspected the said vessel, and that the above statements are correct, and that she leaves this port bound for —, U. S. of A., in *quarantine*.

[Signature of medical officer.]

I certify that the foregoing statements are made by —, M. D., who has personally inspected said vessel; that I am satisfied that the said statements are correct; and I do further certify that the said vessel leaves this port bound for —, in the United States, in *pratique* [or in quarantine].

In witness whereof, I have hereunto set my hand, and the seal of office, at the port of —, this — day of —, 18—, — o'clock.

[SEAL.]

[Consul General, Consul, Commercial Agent, Sanitary Officer, et al.]

The within rules and regulations are true copies made this 17th day of June, 1880.

J. L. CABELL,
President National Board of Health.

THOS. J. TURNER,
Secretary of National Board of Health.

The foregoing regulations are approved.

R. B. HAYES.

JUNE 17, 1880.

CIRCULAR No. 7.

The following rules govern the action of the National Board of Health in co-operating with and aiding State and local boards to enforce the rules and regulations of such boards to prevent the introduction of contagious and infectious diseases into the United States, or into one State from another:

1. The regulations to be enforced are those of State and local boards, and must be such as are approved by the National Board. The National Board, in its circular published in its BULLETIN No. 48, May 29, 1880, has recommended certain regulations with regard to maritime quarantine for adoption by State and local boards; and in its BULLETIN No. 50, June 12, 1880, pages 402-403, it has advised the adoption of certain regulations during the existence of yellow fever.

It should be observed that these recommendations embody general principles only, the end in view being to protect and promote the public health by measures which interfere with travel or traffic as little as possible; in other words, to render commerce *secur*; and (with rare exceptions) *not to put an end to or even suspend it*. In this connection it is proper to add that non-intercourse quarantines, especially by local authorities, are not approved by this Board.

2. Applications to the National Board of Health for aid should be made by or through the State board; or in case there is no State board, then by or through the governor of the State, and should be accompanied by a copy of the rules and regulations for enforcing which aid is desired.

3. An application for aid must give *details* of what is required, and the estimated cost for each item, and must be accompanied by an official certificate from the governor of the State or the mayor or other chief officer of the municipality, respectively, to the effect that there are no State or municipal funds available to carry out the particular sanitary measures to secure which the application is made.

4. The aid furnished by this Board to local authorities must, as a

general rule, be applied to other objects than those of shelter and furniture, which should be furnished by such authorities. Where, however, it shall be otherwise ordered, the local authorities will be expected to account to this Board from time to time for the safe-keeping and proper use of the furniture, provisions, medicines, &c., so furnished.

5. Whenever this Board shall order the erection of temporary buildings, or provide any buildings for the purpose of quarantine, the necessary contracts therefor shall be subject to the approval of the Board or of its executive committee.

6. Care should be taken that the officers to be paid from funds furnished by the National Board are employed only in such number and for such time as there is actual need of their services. The National Board of Health reserves the right of judging from time to time, by means of reports received from its own agents, whether such need exists.

7. Funds are not furnished by the Treasury to State or local boards. They are placed in the hands of the disbursing clerk of the National Board of Health, by whom bills, properly certified and approved, will be paid by check on Washington or New York. All bills must be in accordance with the estimates as approved by the Secretary of the Treasury, must be made out in duplicate on forms furnished by the National Board, and be certified, as to their correctness, by some authorized officer of the State or local board, and must be approved by some member or inspector of the National Board, duly authorized.

All bills for services rendered, or for articles furnished local or State boards, must be sworn to by the person rendering the service or furnishing the articles.

The names of all persons whose services as inspectors, &c., are to be paid for out of its funds must be submitted to and approved by the National Board.

8. State and municipal boards of health which receive aid from this Board are requested to furnish weekly reports to this office of their operations, including copies of orders issued by them and of reports made to them by their quarantine and sanitary inspectors with reference to the occurrence of cases of yellow fever and to measures adopted for isolating such cases; such reports to be presented in a form suitable for publication in the BULLETIN.

It is expected that at the close of the season a full report will be made by boards of health to the National Board as to their operations in carrying out these rules and regulations in which the National Board has rendered aid and co-operation, and it is desired that copies of all orders issued from time to time to inspectors shall be promptly furnished to this Board.

It is to be remembered that a full account of its expenditures must be made by the National Board of Health to Congress, and such account must set forth these expenditures in detail, and exhibit their propriety and necessity.

It is therefore essential that State and municipal boards co-operate with the National Board in supplying material for such an account, and it is earnestly desired that they preserve and furnish due evidence of the propriety of each item of their expenditure for both persons employed and articles purchased with the funds in question.

MONTHLY REVIEW OF MORTALITY FOR APRIL, 1880.

The review for this month has been delayed for the purpose of inquiring into the propriety of a further subdivision of the country in discussing the distribution of diseases with relation to climate, topography, and other conditions. In view of the comparatively small portion of the population of any one minor division made on such a basis, represented in the reports, it is deemed expedient to retain for the present the general division first adopted, as no other has been found to offer any marked difference in diseases with reference to known causes or conditions.

With regard to the effects of temperature and its changes this important element is not fully introduced in the diseases of city populations considered separately as in the reports. It is in the country, where artificial protection is less complete, and the ordinary avocations of the people involve more exposure, that the influence of such cause most clearly appears in the character and results of diseases.

The effects of poverty, drainage, and other city conditions in modifying the production and operation of *malaria* may be cited as another point of difference between the diseases of a district and those of its cities alone.

The review for April is made to include the five weeks from March 27 to May 1, in order to bring the reports up to the end of the calendar month, and at the same time to keep the weekly record complete.

The mean population represented in April was 8,120,702, showing a reduction of 329,291 since March; this is due to the occasional failure of reports from some of the larger cities and the cessation of reports from several smaller ones.

The relative mortality of the white and colored populations is presented as before, in a note to each weekly table, and the summary of these reports for April shows an average white population of 1,547,713, with 5496 deaths this weekly, giving an annual death rate of 18.2 per thousand. For the same period the average colored population weekly was 333,836, the mean number of deaths 235, and the annual death rate 32.9 per thousand. In March the respective rates were 17.6 and 31.5; so that their difference remains nearly the same. The several causes of this discrepancy in the death rates will be more properly discussed by correspondents of the BULLETIN. The general rate of mortality has advanced from an average of 19.13 in March, to 20.22 for April; the cause of this increase will appear in the second section of this review.

TABLE OF PRINCIPAL CAUSES OF DEATH.

Week ending—	Population.	Total deaths.			Deaths under 5 years.	Annual rate per 1,000.	Per cent of total deaths.	Consumption and lung diseases.			Consumption.			Lung diseases, acute.			Diphtheria and croup.			Diphtheria.		
		Number of deaths.	Annual rate per 1,000.	Per cent of deaths.				Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.
April 3	8,386,712	3,238	20.13	1,190	7.16	37.63	388	6.14	30.51	520	3.23	16.07	468	2.91	14.46	161	1.00	1.97	98	0.61	3.03	
April 10	8,340,562	3,206	20.43	1,239	7.15	37.93	1,011	6.33	30.96	177	3.86	13.99	504	3.16	16.36	156	0.97	1.77	97	0.60	2.97	
April 17	8,092,662	3,245	20.92	1,278	8.24	29.15	997	6.24	30.72	457	3.91	11.68	504	3.15	16.44	158	1.02	1.87	97	0.62	3.09	
April 24	8,141,816	3,312	20.04	1,244	7.69	38.37	1,019	6.30	31.13	545	3.18	15.88	499	3.15	15.50	150	0.93	4.62	91	0.56	2.81	
May 1	7,394,712	2,778	19.51	1,039	7.33	37.40	861	6.08	30.99	439	3.10	15.80	177	2.98	15.19	146	1.10	5.61	80	0.66	3.35	
Totals	10,653,508	15,700	...	5,999	...	1.576	...	...	...	2,388	...	...	4,191	...	...	1,581	...	...	156	...	...
Means	8,120,702	3,154	20.22	1,199.8	7.70	38.01	375.2	6.25	30.99	177.6	3.06	15.11	498.6	3.19	15.81	146.2	1.00	1.95	95.2	0.61	3.02	

Week ending—	Croup.			Scarlet fever.			Dysentery and diarrhoeal diseases.			Enteric fever.			Measles.			Whooping cough.			Malarial fever.			Small-pox.		
	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent of deaths.
April 3	61	0.39	1.95	77	0.48	2.38	18	0.30	1.18	62	0.38	1.90	70	0.43	1.46	17	0.29	1.15	41	0.25	1.05	1	0.01	0.03
April 10	59	0.37	1.80	74	0.46	2.26	14	0.27	1.11	67	0.41	1.78	68	0.42	1.49	19	0.31	1.27	41	0.26	1.36	1	0.01	0.03
April 17	63	0.39	1.88	72	0.45	2.24	32	0.51	1.60	66	0.41	1.77	67	0.41	1.60	15	0.29	1.08	41	0.26	1.36	1	0.01	0.03
April 24	59	0.36	1.82	65	0.41	2.30	40	0.56	2.88	61	0.41	1.71	68	0.41	1.69	15	0.29	1.08	41	0.26	1.36	1	0.01	0.03
May 1	60	0.41	2.25	60	0.41	2.25	40	0.56	2.88	61	0.41	1.71	68	0.41	1.69	15	0.29	1.08	41	0.26	1.36	1	0.01	0.03
Totals	405	...	...	408	...	...	263	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Means	61	0.39	1.80	71.6	0.52	2.51	38.6	0.57	1.86	74.1	0.41	1.75	66.2	0.42	1.40	16.8	0.26	1.29	36	0.23	1.11	1	0.01	0.03

1. *Causes of death.* Consumption and acute lung diseases have shown an increasing rate of mortality since January, and in April reached a mean annual rate of 6.25 per 1,000, as against 5.92 in March; but the increase has been entirely in acute lung diseases, which have advanced from 2.95 to 3.19, while consumption has receded from 3.12 to 3.06. The increased mortality from lung diseases is noted especially in the first two weeks of April, when the weather was generally most changeable. *Diphtheria* and *croup* have fallen

from 1.19 to 1.00; the decrease appears in both diseases, diphtheria falling from 0.74 to 0.61, and croup from 0.45 to 0.39 per thousand. Scarlet fever remains next to the head of the zymotic diseases, and has increased from 0.43 in March to 0.52. *Measles* have increased in nearly the same ratio, from 0.32 to 0.42. *Enteric fever* has advanced from 0.27 to 0.35; *malarial fevers* from 0.18 to 0.23, and *diarrheal diseases* from 0.31 to 0.37, while whooping-cough alone remains nearly stationary, being 0.27 in March and 0.26 in April.

TABLE OF DISTRIBUTION OF DISEASES IN THE UNITED STATES.

Sections.	Mean population.	Total deaths.	Annual rate per 1,000.	Consumption and lung diseases.			Consumption.			Lung diseases, acute.			Diphtheria and croup.			Diphtheria.		
				Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.
Northeast	4,371,835	9,153	21.82	2,966	7.08	32.40	1,426	3.40	15.58	1,540	3.68	16.82	508	1.38	5.55	303	0.72	3.31
Southeast	1,496,632	3,020	21.06	897	6.26	29.70	336	3.74	17.75	361	12.32	11.95	67	0.47	2.22	33	0.23	1.09
Northwest	1,960,155	3,159	16.70	860	4.58	27.39	345	1.84	10.99	515	12.71	16.41	187	0.99	5.96	124	0.66	3.35

Sections.	Croup.			Scarlet fever.			Diarrheal diseases.			Enteric fever.			Measles.			Whooping cough.			Malarial fevers.			Small-pox.
	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	Number of deaths.	Annual rate per 1,000.	Per cent. of deaths.	
Northeast	265	0.49	12.24	242	0.58	12.64	123	0.28	1.34	156	0.37	1.74	185	0.46	12.13	84	0.20	0.92	87	0.20	0.95	7
Southeast	34	0.23	1.12	49	0.34	1.56	111	0.77	3.67	61	0.42	2.02	62	0.43	12.05	67	0.45	2.15	58	0.40	1.92	.....
Northwest	63	0.33	12.07	115	0.61	3.66	48	0.25	1.53	47	0.25	1.50	70	0.37	12.23	49	0.26	1.56	34	0.18	0.09	8

2. *Distribution of diseases.* The three sections noted in the above table have the same limits as before, and may be separated in the weekly tables of the BULLETIN by taking the cities from Maine to Pennsylvania, inclusive, for the Northeast, from Delaware to West Virginia, inclusive, for the Southeast, and from Ohio to Nebraska, both included, for the Northwest section. Examining the increased mortality from consumption and lung diseases in April, it appears that in the Northeast the increase has been from 6.98 to 7.08, or 1.4 per cent.; in the Southeast, from 6.14 to 6.26, or 1.9 per cent.; and in the Northwest, from 4.29 to 4.58, or 6.8 per cent. On separating the diseases, it is seen that in the Northeast consumption has fallen from 3.63 to 3.40, or 6.3 per cent., while lung diseases have risen from 3.35 to 3.68, or 9.8 per cent. In the Southeast, consumption increased from 3.47 to 3.74, or 7.8 per cent., while lung diseases fell from 2.68 to 2.52, or 6 per cent. In the Northwest, consumption was reduced from 1.92 to 1.84, or 4 per cent., and lung diseases show an increase from 2.37 to 2.74, or 15.6 per cent., which is the most marked change in this class of diseases. Diphtheria has decreased in the Northeast section from 0.90 to 0.72, and still more in the other two, falling in the Southeast from 0.49 to 0.23, and in the Northwest from 0.90 to 0.66 per thousand. Scarlet fever shows a general increase, which is most marked in the Northeast where the rate has risen from 0.45 to 0.58; in the Southeast from 0.27 to 0.34, and in the Northwest only from 0.58 to 0.61. Measles, having made a general advance of about 33 per cent. since March, the greatest change noted is in the Southeast, from 0.11 to 0.43; in the Northwest the increase is from 0.22 to 0.37, while in the Northeast the change is only from 0.15 to 0.46. This general extension of measles was noted last month, and continues to be the chief movement of the zymotic diseases. Enteric fever has also made a marked advance in all sections except in the Northwest, where the change is only from 0.22 to 0.25; in the Northeast the rate has risen from 0.25 to 0.37, and in the Southeast from 0.33 to 0.42. Malarial fevers show but little advance in the two northern sections, but in the Southeast their death rate has increased since March from 0.26 to 0.40 per thousand. Diarrheal diseases also have remained nearly stationary in the northern sections, while the Southeast shows the first effects of the increased temperature in an increase from 0.51 to 0.77. In March the mortality from diarrheal diseases had already risen to 0.51 in the Southeast, as compared with 0.29 in the Northeast, and 0.22 in the Northwest. The up and movement of these diseases which has begun in the South will probably raise their death rate far above all others before the middle of July in all parts of the United States. The mortality will fall chiefly upon children, and especially infants under two years. The mortality from heat diseases will of course appear also in those classes under the cerebral and nervous system; but the reports exhibit only those affecting the digestive system more prominently. The mortality may be caused by poisonous emanations from decaying organic matter; by direct impression of solar heat; by sudden transition from a low to a high temperature; by changes in the nature of the food used, or by the action of heat upon ordinary articles of diet; or any of these causes may act upon the nursing mother, and upon the infant through her milk. In any case the reduction of this enormous summer mortality

is a practical problem claiming the attention of all physicians and sanitarians.

Small-pox is still reported from some cities of Massachusetts, the contagion coming from Canada; and the frontier posts of Texas are occasionally infected from Mexico. Chicago and Philadelphia are the only large cities reporting deaths from this disease in April; this is, however, no evidence of the absence of the disease at other points.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

BURLINGTON, VT.—Under date of June 10, Dr. George M. Ockford states that during the past month the city has been free from epidemic diseases. A few mild cases of whooping-cough have occurred, but diarrheal and neuralgic diseases have chiefly prevailed. At Winooski, 11 miles distant, scarlatina exists in a mild form, but is not epidemic.

HAVANA, CUBA.—During the week ending May 31 there were 11 deaths from yellow fever, of which 7 were among the citizens and 4 in the military hospitals. The deaths in the month of May were 41. Cleanliness, fumigation, and disinfection have been enforced on all foreign vessels bound for the United States, whether directly from Havana or via other ports of Cuba. For the week ending May 31, the deaths from small-pox were 25, and 75 are reported for the month of May.

During the week ending June 11, there were 25 deaths from yellow fever, 10 among the citizens and 15 in the military hospitals. The fever has appeared on board of a Spanish vessel lying at a wharf, but the foreign shipping is still free from infection. Fourteen deaths from small-pox were reported for the week.

LOWVILLE, N. Y.—Under date of June 13, Dr. F. B. Hough writes that the unusually mild winter and spring have not proved favorable to health, and pulmonary affections have been prevalent. Attention is called to a practice adopted in the lumber region near Lowville, which causes much trouble. The *slabs*, which cannot be used, are cut by machinery into chips, which are thrown with the sawdust into the river. This refuse being nearly 25 per cent. of all the lumber worked up, the quantity accumulating is enormous, and forming obstructions to navigation, which are exposed to low water, it not only obstructs navigation, but gives rise to unwholesome emanations. The same evil exists in other lumber regions of our country, but in New Brunswick the refuse material is required to be destroyed by fire; the abuse is a proper subject for legislation, both as impeding navigation and as polluting the rivers.

ORO CALIFORNIA, N. MEX.—Assistant Surgeon C. A. Sewall, under date of May 28, reports that the epidemic of measles, noted in his letter of March 18, has ceased; no case has occurred since May 2. The whole number affected was eighteen, fifteen colored and three white soldiers.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING JUNE 5, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Croup.	Diarrheal diseases.	Diphtheria.	Enteric.	Malarial.	Scarlet.	Yellow.	Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents.
Cal.	San Francisco	205,000	15	63	10.8	17	.....	1	.....	2	1	.....	.....	8	1	.....	.....	1	.....	1
	Sacramento	53,000	3	5	10.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
	Los Angeles	14,000	1	2	12.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
	Vallejo	7,500	1	1	13.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals		7,674,160	1,182	8,863	19.3	388	28	268	78	41	12	70	.....	269	46	25	.....	22	445	100

NOTE.—Boston has 370,000 white, 5,000 colored; deaths, 113 white, 1 colored. Rate per 1,000, white 15.9, colored 16.4. Providence has 99,200 white, 3,800 colored; deaths, 37 white, 2 colored. Rate per 1,000, white 19.5, colored 27.4. Sing Sing has 7,250 white, 250 colored; deaths, 8 white, 1 colored. Rate per 1,000, white 57.5, colored 208.7. Wilmington has 39,040 white, 5,000 colored; deaths, 14 white, 9 colored. Rate per 1,000, white 18.7, colored 78.2. Baltimore has 343,715 white, 56,285 colored; deaths, 148 white, 49 colored. Rate per 1,000, white 22.2, colored 55.4. District of Columbia has 114,000 white, 56,000 colored; deaths, 34 white, 62 colored. Rate per 1,000, white 15.5, colored 58.1. Norfolk has 14,900 white, 11,300 colored; deaths, 15 white, 14 colored. Rate per 1,000, white 52.5, colored 64.6. Richmond has 16,000 white, 34,000 colored; deaths, 16 white, 19 colored. Rate per 1,000, white 18.1, colored 29.1. Lynchburg has 16,000 white, 11,000 colored; deaths, 2 white, 3 colored. Rate per 1,000, white 16.4, colored 25.7. Charleston has 25,000 white, 32,000 colored; deaths, 11 white, 21 colored. Rate per 1,000, white 22.9, colored 39.1. Savannah has 18,220 white, 15,620 colored; deaths, 5 white, 15 colored. Rate per 1,000, white 14.3, colored 21.1. Augusta has 16,176 white, 10,824 colored; deaths, 1 white, 11 colored. Rate per 1,000, white 12.9, colored 52.0. Atlanta has 25,373 white, 16,175 colored; deaths, 11 white, 4 colored. Rate per 1,000, white 22.5, colored 12.9. Jacksonville, Fla., has 7,000 white, 5,000 colored; deaths, 2 colored. Rate in table. New Orleans has 155,000 white, 55,000 colored; deaths, 57 white, 53 colored. Rate per 1,000, white 22.4, colored 26.2. St. Louisport has 4,500 white, 5,000 colored; deaths, 1 white, 1 colored. Rate per 1,000, white 11.6, colored 41.7. Austin has 12,000 white, 4,000 colored; deaths, 2 white, 2 colored. Rate per 1,000, white 8.7, colored 25.0. Nashville has 26,000 white, 11,000 colored; deaths, 11 white, 12 colored. Rate per 1,000, white 22.0, colored 36.9. Clarksville has 3,000 white, 3,000 colored; deaths, 1 white, 1 colored. Rate per 1,000, white 17.3, colored 69.5. Jacksonville, Ill., has 14,500 white, 500 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 7.2, colored 104.2. Total white population, 1,350,844; deaths, 52; annual rate per 1,000, 26.5. Total colored population, 541,134; deaths, 291; annual rate per 1,000, 14.9.

The following reports, for the week ending June 5, are from places requiring burial permits and having less than 5,000 population:

Bridge-water, Mass., 1,000; deaths, 4; under 5 years, 1; diphtheria, 1; pneumonia, 1; old age, 1. Chatham, Conn., 3,000; dysentery, 1. East Haven, Conn., 1,200; deaths, 2; malarial fever, 1. Edgartown, Mass., 1,100; pleurisy, 1. Franklin, Ind., 4,000; one death. Morgan City, La., 2,500; one death. Murfreesboro, Tenn., 3,500; one death, under 5 years. Nantucket, Mass., 3,000; two deaths. Saint Augustine, Fla., 2,500; one death. San Diego, Cal., 3,000; no deaths. Shelbyville, Tenn., 2,000; no deaths. Total population, 30,100; deaths under 5 years, 2; total deaths, 14; annual rate per 1,000, 24.2.

The following reports, for the week ending June 5, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 6; under 5 years, 2; consumption 3, diarrheal 1, pneumonia 1. Allegheny, Pa., 75,000; deaths, 16; under 5 years, 10; consumption 2, diphtheria 2, whooping-cough 1. Bath, Me., 10,000; deaths, 3; consumption 1, lung diseases 2. Battle Creek, Mich., 7,500; no deaths. Belfast, Me., 5,375; deaths, 5; diphtheria 1, lung diseases 2. Boulder, Colo., 3,500; no deaths. Brattleborough, Vt., 6,500; deaths, 2; pneumonia 1. Calais, Me., 7,000; deaths, 2; diarrheal 1. Carrollton, Miss., 600; no deaths. Circleville, Ohio, 6,400; pneumonia 1, under 5 years. Clinton, Mich., 1,200; no deaths. Columbus, Ga., 10,000; deaths, 7; consumption 1, measles 1, lung diseases 1, malarial fever 1. Corinth, Miss., 2,500; no deaths. Cumberland, Md., 12,000; deaths, 2; under 5 years, 1; croup 1. Davenport, Iowa, 27,000; deaths, 11; under 5 years, 3; consumption 2, enteric fever 1, pneumonia 1, whooping-cough 3, old age 1. Decatur, Miss., 1,000; no deaths. Fayette, Miss., 3,000; no deaths. Hamilton, Ind., 4,500; deaths, two. Huntington, Tenn., 250; no deaths. Inver, Miss., 1,000; no deaths. Jefferson, Tex., 3,000; no deaths. Kenosha, Wis., 5,000; no deaths. La Fayette Springs, Miss., 300; no deaths. Lansingburgh, N. Y., 7,150; deaths, 2, under 5 years; enteric fever 1, scarlet fever 1. Lebanon, Pa., 9,000; deaths, 2; consumption 1. Madison, Ind., 12,000; deaths, 10; under 5 years, 3; consumption 1, diphtheria 1, scarlet fever 3. Martinsburg, W. Va., 6,000; deaths, 2. Millersburg, Ga., 4,000; deaths, 3; diarrheal 1, pneumonia 1. Mount Pleasant, Iowa, 5,000; no deaths. Muscatine, Iowa, 7,500; deaths, 2; consumption 1, scarlet fever 1. Muskegon, Mich., 13,000; puerperal 1. Natchez, Miss., 10,000; deaths, 2; scarlet fever 1. Ocala, Fla., 1,000; no deaths. Okolona, Miss., 3,000; no deaths. Painesville, Ohio, 5,000; deaths, 2; consumption 1. Perrinton, Miss., 1,500; no deaths. Phenixville, Pa., 6,000; deaths, 3; under 5 years, 1; consumption 1, measles 1. Pleasant Hill, Miss., 250; no deaths. Port Gibson, Miss., 1,100; no deaths. Port Jervis, N. Y., 10,000; deaths, 3; consumption 1. Portsmouth, Va., 11,000; deaths, 9; under 5 years, 1; diarrheal 2. Tulaski, Tenn., 2,100; one death, under 5 years. Raymond, Miss., 700; no deaths. Ripley, Miss., 1,000; no deaths. Rock Island, Ill., deaths, 3; population not given. Rockland, Me., 7,000;

deaths, 5; under 5 years, 1; consumption 2, scarlet fever 1. Santa Cruz, Cal., 5,000; no deaths. Springfield, Ohio, 23,000; deaths, 4; under 5 years, 1; consumption 2, scarlet fever 1. Starkville, Miss., 1,451; no deaths. Steubenville, Ohio, 13,000; deaths, 3; under 5 years, 2. Tampa, Fla., 1,200; no deaths. Titusville, Pa., 9,000; deaths, 2. Tuscaloosa, Ala., 4,000; consumption 1. Victoria, Tex., 3,500; enteric fever 1, under 5 years. Winchester, Va., 5,500; deaths, 1; under 5 years, 1; diarrheal 1, diphtheria 1. Winona, Minn., 10,000; pneumonia 1. Youngstown, Ohio, 17,900; deaths, 6; under 5 years, 1; consumption 1, diarrheal 1, pneumonia 1, puerperal 1. Total population, 468,282; deaths under 5 years, 35; total deaths, 129; annual rate per 1,000, 16.5.

ABSTRACTS FROM CONSULAR REPORTS.

CADIZ, SPAIN.—The consular report for the week ending May 15 gives a total of 31 deaths in a population of 65,028, being at the annual rate of 24.8 per 1,000. No information as to causes of death could be obtained from the authorities.

COLOGNE, GERMANY.—United States Consul George E. Bullock reports for the month of April 6 deaths from typhoid fever, 7 from diphtheria, 8 from whooping-cough, and 4 from scarlet fever. Total deaths, 306; annual rate per 1,000, 25.9, the population being 141,650.

MAZATLAN, MEXICO.—United States Consul E. G. Kelton reports that during the month of April there were 7 deaths from consumption, 7 from malarial fevers, 5 from diarrheal, 9 from *tetanus* in children, and 21 from other causes. Total deaths, 49; annual rate, 42 per 1,000, the population being 14,000.

SHANGHAI, CHINA, April 24.—United States Consul O. N. Denny cannot obtain official returns of diseases, &c., even in the foreign settlement of about 2,000 persons. The prevailing diseases are malarial fevers and a mild form of measles, which does not give protection from subsequent attacks. The sanitary condition of the settlement is not bad, and the drainage is as good as can be secured in a perfectly level, alluvial site. The condition of the native walled city is probably worse than can be conceived by Americans. No drainage, and water supply drawn from open cesspools, so foul that the water is invariably boiled before using to destroy its poisonous properties.

QUEENSTOWN, IRELAND, May 22.—United States Consul E. P. Brooks sends a copy of the "sanitary return" from one district of this city, to show how meager are the returns from which his weekly reports are made up. One death from typhoid and 10 from typhus fever are noted for the week, yet the sanitary condition of the town is rated "excellent." The total number of deaths being 11; the annual rate per 1,000 was 57.3.

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MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
1880.																		
Vancouver's Island.	Victoria	5,000	May 29	2	26.9													57
Prince Edw'd Isl'd.	Charlottetown	12,000	June 5	1	4.3												1	59.1
Canada	Kingston	16,000	June 5															
Bermuda	Hamilton	14,867	June 8	1	3.5													75
Cuba	Havana	195,437	May 29	163	43.5			11		22		3						80
Guadaloupe	Point à Pitre	22,919	May 15	11	25.0													62
Azores	Fayal Horta	7,630	Apr. 24	9	61.5													63
Do	Do	7,630	May 1	4	27.4													
Ireland	Queenstown	10,000	May 29	12	62.6													
Do	Belfast	230,000	May 22	105	23.8							28	4			18	1	47.2
Do	Do	230,000	May 29	124	28.1					2		30	1			17	3	53
Do	Dublin	314,666	May 22	206	53.1													29.1
Do	Do	314,666	May 29	329	36.5					9		5		4			31	54
Scotland	Dundee	155,000	May 22	71	23.9							4		3		66		54
Do	Glasgow	589,508	May 22	260	23.0							13				32		53.3
Do	Leith	56,479	May 29	27	24.0											7		51.4
England	London	3,254,290	May 22	1,297	18.5					10		15		1		149		50.8
Do	Sheffield	304,968	May 22	129	22.1													51.1
Do	Do	304,968	May 29	114	19.5											10		52.7
Do	Bristol and Clifton	215,900	May 22	92	22.5													62.7
Do	Newcastle	148,000	May 22	62	21.6													
Do	Liverpool	544,056	May 29	244	23.4													
Wales	Cardiff	82,304	May 29	23	14.6							4	5	6	1	31	31	52
Switzerland	Geneva	52,077	May 22	25	25.0													56.3
Do	Zurich	25,103	May 22	9	24.0													
Holland	Amsterdam	216,932	May 22	173	28.5									1		9		52
Do	Rotterdam	150,378	May 29	86	29.8											45		
Germany	Berlin	1,087,000	May 15	557	26.6							12	2	3		127	79	53
Do	Hamburg	405,000	May 1	198	25.4										1		17	
Do	Do	405,000	May 8	248	31.9										1		20	
Do	Stuttgart	105,825	May 15	34	16.0												4	54
Do	Do	105,825	May 22	55	26.1													69
Do	Breslau	276,000	May 15	150	28.3							1				17	51	
Do	Frankfort-on-the-Main	128,000	May 15	56	22.8											3	70	
Do	Do	128,000	May 22	44	17.9													61
Do	Brinswick	74,000	May 22	26	18.3										2		1	
Do	Nuremberg	100,000	May 22	61	31.1													54
Bavaria	Do	100,000	May 8	61	31.8													49
Do	Saxony	100,000	May 15	51	26.6													52
Do	Chemnitz	90,017	May 15	68	39.4													54
Do	Leipzig	218,000	May 15	130	30.9							2	2			11	11	50
Do	Dresden	150,826	May 29	64	22.1													61
Belgium	Antwerp	173,643	May 22	115	24.5					108	38	7	3			2		53.4
Do	Do	173,643	May 29	129	28.8					95	46	10	3					66.2
Do	Brussels	106,628	May 29	79	17.4						1		1					51
Denmark	Copenhagen	255,000	May 15	110	25.8					2	1	7				15		
Italy	Leghorn	97,880	May 29	36	19.2													
Do	Genoa	180,000	May 29	70	20.3					1								
Sicily	Palermo	218,398	Apr. 10	87	20.6							3						59
Do	Do	218,398	Apr. 17	81	19.9								1					61
Do	Do	218,398	Apr. 24	72	17.1									1				61
Do	Do	218,398	May 1	65	15.4									1				62
Austria	Trieste	128,253	May 15	93	37.8					2	2	1	1					67
Do	Vienna	246,242	May 22	134	19.9													52
Hungary	Buda-Pesth	233,551	May 15	262	41.1													17
Russian Poland	Warsaw	357,169	May 15	157	21.3													55
Sweden	Stockholm	109,429	May 15	111	35.9													53
Norway	Christiania	116,800	May 15	49	11.8											10	2	51
Spain	Gibraltar	19,000	Apr. 18	8	22.0													63.8
Do	Do	19,000	Apr. 25	4	11.1													63.3
Do	Do	19,000	May 2	6	16.5													62.9
Do	Do	19,000	May 9	9	22.0													61
Do	Do	19,000	May 16	5	12.7													64.1
Do	Cadiz	65,028	May 22	41	32.9													67
Barbary	Tripoli	20,000	May 15	11	28.7													76.6
Do	Do	20,000	May 22	6	15.7													81.4
China	Shanghai (Foreign Settlement).	2,000	May 8	4	104.4													64
Japan	Kobe	11,946	May 15	8	34.9													

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The *total* numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.

National Board of Health

BULLETIN.

Vol. 1.]

WASHINGTON, D. C., SATURDAY, JUNE 26, 1880.

[No. 52.]

RULES AND REGULATIONS OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA.

FOR THE GOVERNMENT OF QUARANTINE OFFICERS AND STATIONS, AND FOR THE ENFORCEMENT OF THE ACTS OF THE LEGISLATURE OF LOUISIANA "ESTABLISHING AND REGULATING QUARANTINE FOR THE PROTECTION OF THE STATE."

At a meeting of the board of health of the State of Louisiana, held on the 24th of May, 1880, in the State-house, the president, Dr. Joseph Jones, submitted the following rules and regulations relative to quarantine, which were unanimously adopted.

The president was authorized to cause the publication and distribution of said rules:

OFFICE BOARD OF HEALTH,
STATE OF LOUISIANA, STATE-HOUSE,
New Orleans, May 24, 1880.

LEGISLATIVE ACTS ESTABLISHING AND DEFINING THE POWERS OF THE BOARD OF HEALTH, STATE OF LOUISIANA, RELATIVE TO QUARANTINE.

SECTION 1. The board of health of the State of Louisiana establishes the following rules and regulations relative to quarantine in virtue of the powers conferred by the several acts of the legislature of Louisiana "establishing and regulating quarantine for the protection of the State," viz:

"An act to establish quarantine for the protection of the State," approved March 15, 1855. "An act supplementary to an act, entitled 'An act relative to quarantine,'" approved March 18, 1858. "An act to amend an act entitled 'An act to establish quarantine for the protection of the State,'" approved March 16, 1870. "An act to authorize and empower the board of health of the State of Louisiana to detain and disinfect, and to pass after disinfection, vessels from infected ports, at and from quarantine stations, in lieu of a fine of quarantine detention in certain cases, and to repeal conflicting laws," approved March 24, 1876. "An act to reorganize and render more efficient the board of health of the State of Louisiana; to define its powers and prescribe its duties and those of quarantine and other officers under its control; to provide for its expenses, and for the recording of births, deaths, and marriages in the parish of Orleans; and to provide penalties for the enforcement of this act and for violation of the same, and for the ordinances and orders made in pursuance thereof," approved April 20, 1877.

POWERS OF BOARD OF HEALTH RELATIVE TO QUARANTINE.

SEC. 2. In accordance with the said acts of the legislature of the State of Louisiana, the board of health has power to fix the number of days of quarantine for vessels liable to it; to determine how said quarantine shall be performed, and to make any and all legal regulations, not contrary to said acts, necessary to carry out a proper system of quarantine, and to enforce the same; to make rules and regulations for preserving good order and police within the limits of the quarantine grounds, and to impose penalties for the breach thereof; to contract for the necessary buildings at quarantine grounds; to establish rules and regulations for the guidance of the quarantine physicians, assistants, and employees; to employ nurses and assistants to attend the sick, and such other persons as may be necessary to carry out proper quarantine regulations, and to fix their compensation.

POWER OF BOARD OF HEALTH TO ISSUE PROCLAMATION OF QUARANTINE.

SEC. 3. In cases of emergency, the board of health shall have power to issue proclamation of quarantine without reference to the governor, and to enact all needful regulations for the enforcement of the same.

VISITATION AND INSPECTION OF VESSELS BY QUARANTINE PHYSICIANS.

SEC. 4. Vessels arriving at the quarantine station shall immediately proceed to the boarding station, and shall be visited by the quarantine physician, between sunrise and sunset, as soon as possi-

ble after such arrival. The quarantine officer shall inspect the ship, and require of the captain or master answers in duplicate to the following questions:

QUESTIONS

to be propounded by the president, quarantine officers, and deputy inspectors of the board of health of the State of Louisiana to the masters, captains, and medical officers of vessels at the port of New Orleans and quarantine stations of Louisiana:

(Port or station) _____,
(Date of inspection) _____, 188-.

1. Name of vessel?
2. Name of captain or master?
3. Tonnage or class of vessel?
4. From whence is the vessel your command?
5. How many days have you been on the passage?
6. At what port or ports have you touched?
7. Were any contagious or infectious diseases prevailing at the port from whence your vessel sailed?
8. If so, name the diseases.
9. Were any contagious or infectious diseases prevailing at the port or ports at which you touched?
10. If so, name the diseases.
11. Was any freight or passengers received at the ports at which your vessel touched?
12. If so, give particulars.
13. Have you any bills of health?
14. If so, produce them.
15. During the course of your cruise or passage, what cases of disease have occurred on board?
16. At what dates?
17. Have any deaths taken place on board your vessel since you left the last port?
18. If so, at what dates and from what causes?
19. Are there any sick on your vessel at this time?
20. Has yellow fever, small-pox, cholera, or plague ever existed on this ship?
21. If so, when?
22. What is the number of officers?
23. What is the number of the crew?
24. What is the number of passengers?
25. What is your cargo?
26. To whom is the cargo consigned?
27. What is the present sanitary condition of the vessel, cargo, crew, and passengers?
28. Have you a medical officer?
29. Give the name of the medical officer.
30. Produce the reports of the medical officer.

(Signature of master or captain) _____.

Subscribed to before me,

Witness: _____.

The preceding questions and answers shall be signed in duplicate, one copy to be retained at the quarantine station and the other to be transmitted to the president of the board of health.

DISINFECTION, FUMIGATION, AND PURIFICATION OF VESSELS FROM PORTS IN WHICH YELLOW FEVER USUALLY PREVAILS.

SEC. 5. All vessels from ports in which yellow fever usually prevails, or from ports where other contagious or infectious diseases are reported to exist, shall be detained at quarantine stations, for purpose of disinfection, fumigation, and purification, and shall be disinfected, fumigated, and purified.

VESSELS FROM INFECTED PORTS TO BE DETAINED AT QUARANTINE STATIONS NOT LESS THAN SEVENTY-TWO HOURS.

SEC. 6. All vessels from ports in which yellow fever is prevailing, or from ports where other contagious or infectious diseases are reported to exist, shall be detained at quarantine stations for observation, disinfection, purification, and fumigation, not less than seventy-two hours; or for such length of time as the board of health may determine.

SEC. 7. In case yellow fever, cholera, or plague, or small-pox, or typhus fever prevails in epidemic form at the port from which the

vessel sailed, or at any port at which she has touched during the voyage, or on any vessel with which she has come in contact during the voyage, the detention shall not be less than sufficient to complete the full period of five days from the date of exposure to such infection.

VESSELS COMING FROM HEALTHY PORTS SOUTH OF LATITUDE 26° N., TO BE GIVEN FREE PRACTICE AFTER THOROUGH INSPECTION, FUMIGATION, AND DISINFECTION.

SEC. 8. In case the condition of the vessel is satisfactory, and neither yellow fever, nor cholera, nor plague, nor small-pox, nor typhus fever, in epidemic form, existed at the port from which she sailed, or at any intermediate ports at which she may have touched, or on any vessel with which she has come in contact during the voyage, although said vessel may come from ports south of 26° north latitude, the quarantine officer, after thorough inspection, fumigation, and disinfection, may give free pratique, and the vessel may proceed to the usual wharf or landing in the harbor of New Orleans, or other points where quarantine may be established by the board of health.

INFECTED VESSELS—RULES AND REGULATIONS GOVERNING INFECTED VESSELS AT QUARANTINE STATIONS.

SEC. 9. In case yellow fever, cholera, small-pox, typhus fever, plague, or any other infectious or contagious disease, has attacked whilst in port, or during the voyage, or whilst lying at the quarantine station, one or more of the crew or passengers of the vessel, she shall be subject to the following rules and regulations:

(a) The crew and passengers shall be inspected by the quarantine physician, and if any are sick they shall be removed to the proper hospital.

(b) The clothing, baggage, bedding, and equipment of the crew and passengers, both sick and well, shall be exposed to the air, and shall be ventilated, purified, disinfected, and fumigated.

(c) The hatches shall be opened and the vessel as far as possible ventilated; the hold and cabin of the vessel and all closets and clothing, linen, carpets, curtains, and fabrics of every description shall be thoroughly fumigated with sulphurous acid gas; baggage-rooms, cabins, lockers, water-closets, and all parts of the vessel to be thoroughly ventilated, fumigated, disinfected, and cleansed.

(d) The bilge-water shall be pumped out, and washed out with fresh water, until the bilge-water shall be clear and odorless. The following solution of sulphate of iron (copperas) and Calvert's carbolic acid, No. 5, shall be introduced and allowed to remain:

Disinfectant to replace bilge-water, and also for cleansing water-closets and washing decayed or foul wood on ship board.

Sulphate of iron (copperas).....	fifty (50) pounds.
Carbolic acid (Calvert's No. 5).....	two (2) gallons.
Water.....	fifty (50) gallons.

This disinfectant is readily prepared by suspending 50 pounds of copperas in a straw basket, in the upper portion of a water-tight barrel or cask, and pouring water upon the copperas, until the barrel is nearly full, and then adding two (2) gallons of carbolic acid (Calvert's No. 5). The copperas will be dissolved during the filling of the barrel. This disinfecting, deodorizing, and antiseptic fluid may be extemporaneously prepared at any time on ship board in the course of half an hour.

This solution should be used in the cleansing and purification of all unpainted work in the hold, between decks, in the fore-castle, cabins, lockers, and water-closets.

(e) The amount of sulphur consumed during the fumigation of a vessel should be regulated by the size and capacity of the craft, nature of cargo, and general hygienic condition.

When sulphur is burned in iron pots, or pans, the fumigation should be continued until the sulphur is extinguished in the consumption of the oxygen of the air and the liberation of the sulphurous acid gas. At least two pounds of sulphur should be burned for every 1,000 cubic feet of space in the vessel. The number of fumigations will in like manner depend upon the condition of the vessel, crew, passengers, and cargo.

(f) If, in the judgment of the board of health, a vessel require it, the quarantine physician may order the following sanitary measures: Baths, or other bodily care for the person; washing, or other disinfecting means for clothing; displacement of merchandise on board, or complete breaking out; subjection to high steam, incineration, or submersion at a distance below the surface of the water, for infected articles; the destruction of tainted or spoiled food, or beverages; the complete ejection of water; thorough cleansing of the hold, and the disinfection of the well. In short, the complete purification of the vessel in all her parts, by the use of steam, fumigation, fore-pumps, wind-blasts, scrubbing or scraping, and finally, detention at quarantine anchorage until these means are perfected.

(g) All articles which have been in contact with persons sick with contagious or infectious diseases should be burned, or treated with a boiling hot solution of sulphate of zinc and common salt, dissolved together in water, in the proportion of four ounces of sulphate of zinc and two ounces of salt to the gallon.

DISCHARGE OF CARGO AND PURIFICATION OF INFECTED VESSELS.

SEC. 10. Whenever it shall be deemed necessary by the board of

health the cargo of any vessel dangerously infected shall be discharged in lighters, or transferred to the warehouse especially prepared for its reception.

After the discharge of cargo the vessel shall be thoroughly cleansed, disinfected, and ventilated; the hold, the fore-castle, or sleeping apartments of the crew, and the cabins for passengers, as well as bunks or portable berths, shall be thoroughly cleansed, disinfected, and ventilated.

All decaying wood shall be scraped and disinfected with strong solutions of sulphate of iron and carbolic acid. The decks and unpainted workwood should be treated in like manner.

Until the process of discharge of cargo and purification has been completed to the satisfaction of the quarantine physician, there shall be no communication between the vessel and the shore, or other vessels, except by the written permit of the quarantine physician.

Every person who shall go on board of any vessel while performing quarantine without the permission of the resident physician or his assistants, shall forfeit the sum of fifty dollars.

RULES GOVERNING THE SICK AT QUARANTINE STATIONS.

SEC. 11. The sick shall be detained in hospital until recovery, and for such a time afterwards as will insure that they will not communicate or transport the cause of disease.

SEC. 12. Passengers under observation shall be detained at least five days from the time of the last exposure or during the period of incubation of the disease or diseases for which the ship is detained. In case of the occurrence of other contagious or infectious diseases, they shall be detained until, in the judgment of the quarantine officer, they may be safely permitted to proceed to their destination.

In the case of small-pox occurring on board a ship arriving at any port, the sick shall be sent to the hospital, and all not sick shall be immediately vaccinated, unless offering evidence of previous satisfactory vaccination, or of a previous attack of small-pox.

SEC. 13. Persons employed at quarantine stations, who have been brought in contact with infected vessels, shall not be permitted to leave such station until their clothing has been washed and disinfected, nor until an interval of five days since their last exposure to infection.

WHEN NECESSARY, THE PUBLIC HEALTH TO BE PROTECTED BY ADDITIONAL MEASURES.

SEC. 14. It shall be the duty of the quarantine physician to take the responsibility of applying such additional means as may be deemed indispensable for the protection of the public health; but in all such cases the quarantine physician shall report immediately and fully his action to the board of health.

CLASSIFICATION OF MERCHANDISE AT QUARANTINE STATIONS FOR SANITARY MEASURES.

SEC. 15. For the purpose of sanitary measures, merchandise shall be arranged in three classes:

1. Merchandise to be submitted to an obligatory quarantine, and to purification;

2. Merchandise subject to an optional quarantine; and

3. Merchandise exempt from quarantine.

The first class comprises all clothing, personal baggage and dunnage, rags, paper-rags, hides, skins, feathers, hair, and all other remains of animals, cotton, hemp, woolsens, and coffee in bags.

The second class comprehends sugar, silks and linen, and cattle.

The third class comprehends all merchandise not enumerated in the other two classes.

With existing quarantinable disease on board, or if there be any such disease on board within ten days last preceding, merchandise of the first class shall be landed at the quarantine warehouse.

Merchandise of the second class may be admitted to pratique immediately, or transferred to the warehouse, according to circumstances, at the option of the quarantine officer, with due regard to the sanitary condition of the port. Merchandise of the third class shall be declared free, and admitted without unnecessary delay.

RULES GOVERNING FOUL VESSELS.

SEC. 16. If any vessel, though not having had during the voyage any case of quarantinable disease, yet be found in a condition which the quarantine officer shall deem dangerous to the public health, the vessel and cargo shall be detained until the case shall have been considered; the decision of the quarantine officer, however, in all such cases, shall be rendered within twenty-four hours.

Vessels in an unhealthy and foul state, whether there has been sickness on board or not, shall not be allowed pratique until they shall have been duly cleansed and ventilated.

PENALTIES FOR VIOLATION OF QUARANTINE ACTS, RULES, AND REGULATIONS.

SEC. 17. Every master of a vessel subject to a quarantine or visitation, arriving at the port of New Orleans, who shall refuse or neglect, either, first, to proceed with and anchor his vessel at the place designated for quarantine at the time of his arrival; second, to submit his vessel, cargo, and passengers to the examination of the physician, and to furnish all necessary information to enable that officer to de-

termine what quarantine shall be fixed for his vessel at the quarantine ground during the period assigned for her quarantine, and while there to comply with the directions prescribed by the acts of the legislature of Louisiana, and the rules and regulations of the board of health founded thereon, or with such directions prescribed for his vessel, crew, and cargo and passengers, by the resident physician, shall be guilty of a misdemeanor, and be punished by a fine not exceeding two thousand dollars (\$2,000), or by imprisonment not exceeding twelve months, or by both, at the discretion of the court.

DUTY OF QUARANTINE PHYSICIAN TO REPORT TO THE ATTORNEY-GENERAL ALL VIOLATIONS OF QUARANTINE LAWS.

SEC. 18. The resident physician shall report to the attorney-general all violations of this act; and it shall be his duty to prosecute all persons thus offending; to collect the fines and remit the amount thereof to the secretary of the board of health, whose duty it shall be to keep a separate book for fines collected, to be approved of every three months by the attorney-general.

DUTY OF HARBOR-MASTERS TO DEMAND PERMITS OF RESIDENT QUARANTINE PHYSICIANS.

SEC. 19. It shall be the duty of the harbor-masters, in their respective districts, to demand of the captain of every vessel arriving from sea to New Orleans, the permit of the resident physician, and to report to the president of the board of health all vessels having entered the port without such permit.

POWER OF BOARD OF HEALTH TO ISSUE THEIR WARRANT TO THE SHERIFF OF THE CITY OR PARISH WHERE ANY VESSEL MAY BE, HAVING VIOLATED THE QUARANTINE LAWS.

SEC. 20. The board of health shall have power to define the duties of officers employed by them, and impose additional duties to officers appointed under the acts entitled "An act to establish quarantine for the protection of the State," approved March 15th, 1855, and March 16th, 1870; to issue warrants to any constable, police officer, or sheriff in the State; to apprehend and remove such person or persons as cannot otherwise be subjected to the provisions of this act, or who shall have violated the same; and whenever it shall be necessary so to do, to issue their warrant to the sheriff of the city or parish where any vessel may be, having violated the provisions of the "acts establishing and regulating quarantine for the protection of the State," commanding him to remove said vessel to the quarantine ground, and arrest the officer thereof; all which warrant shall be executed by the officer to whom the same shall be directed, who shall possess the like power in the execution thereof and be entitled to the same compensation as if the same had been duly issued out of any court of the State.

RULES AND REGULATIONS GOVERNING THE CAPTAINS OR MASTERS OF TOW-BOATS.

SEC. 21. From the first of May to the first of November, all tow-boats plying from the mouth of the river to New Orleans shall be liable to inspection and quarantine, and it shall be the duty of the different harbor-masters to require from the captains of said tow-boats the certificate of the resident physician; *Provided*, Nothing herein contained shall be so construed as to apply to tow-boats plying between New Orleans and the quarantine ground, and no further.

SEC. 22. The captain of any tow-boat or steamboat who shall receive on board of his boat freight, goods, or passengers from a vessel liable to inspection or quarantine, or who shall receive goods or passengers from the quarantine ground, without the permission of the resident physician, shall be punished by a fine not exceeding two thousand dollars (\$2,000), and by imprisonment at the discretion of the court; and all violations of the provisions of these quarantine laws at the quarantine station on the Mississippi River, and at the Rigolets, shall be tried by the criminal court of New Orleans, and all violations of this act at the station on the Atchafalaya River shall be tried by the district court of the parish of Saint Mary.

RULES AND REGULATIONS GOVERNING PILOTS.

SEC. 23. The board of health shall cause a sufficient number of these rules and regulations to be printed and delivered to the pilots to be distributed to the masters of vessels arriving as before provided.

SEC. 24. Every pilot, or any other person acting as such, shall deliver to the master of every vessel inward bound one copy of the printed rules and regulations of the board of health of the State of Louisiana, relative to quarantine, which shall be furnished him by the board of health; and any pilot refusing or neglecting so to do, or aiding or landing any person or persons contrary to the quarantine acts, shall forfeit one hundred dollars for every offense.

DUTIES AND POWERS OF THE PRESIDENT OF THE BOARD OF HEALTH.

SEC. 25. It shall be the duty of the president of the board of health to reside in New Orleans and superintend the different quarantine stations of the State, and it shall be his duty to visit them as often as the board of health may deem necessary. He shall have the power to issue, during the adjournment of the board of health, to constables or the sheriff, all orders and warrants provided by the provisions of the "acts of the legislature of Louisiana establishing and regulat-

ing quarantine for the protection of the State;" and shall report to the attorney-general all violation of the same. Whenever it shall be necessary so to do, the president of the board of health shall have power to issue his warrant to the sheriff of the city or parish where any vessel may be, having violated the provisions of the "acts establishing and regulating quarantine for the protection of the State," commanding him to remove said vessel to the quarantine ground, and arrest the officers thereof; all which warrant shall be executed by the officer to whom the same shall be directed, who shall possess the like powers in the execution thereof and be entitled to the same compensation as if the same had been duly issued out of any court of the State.

DUTIES OF RESIDENT QUARANTINE PHYSICIANS.

SEC. 26. It shall be the duty of the resident physicians of the quarantine stations established by the board of health of the State of Louisiana to faithfully carry out at all times and under all circumstances the provisions of the "acts establishing and regulating quarantine for the protection of the State," and the rules and regulations of the board of health founded upon said acts.

SEC. 27. It shall be the duty of the resident physician of the Mississippi quarantine station or his assistant to visit and inspect every vessel coming from any port or entering the mouth of the Mississippi River.

He shall require the captain of every vessel thus inspected to pay the fees fixed by the acts of the legislature of Louisiana; *Provided*, Nothing contained in this section shall apply to any vessel or craft going from New Orleans to sea and returning without having touched at any port or at the quarantine, tow-boats excepted. Vessels free from disease, not in a foul condition, and not from an infected district (which shall be decided upon by the resident physician) shall be furnished with a certificate of health and allowed to proceed to the city. The resident physician shall require for every inspection and certificate thus furnished the following fees: Every sailing vessel of one thousand tons and over shall pay thirty dollars (\$30); every ship of one thousand tons or less shall pay twenty dollars (\$20); every bark shall pay fifteen dollars (\$15); every brig shall pay ten dollars (\$10); every schooner shall pay seven dollars and fifty cents (\$7.50); every steamboat (tow-boats excepted) shall pay five dollars (\$5); every steamship from Florida, Alabama, Mississippi, or Texas shall pay ten dollars (\$10); every steamship from other ports shall pay twenty dollars (\$20). The resident physician shall return to the secretary of the board of health a weekly list of all the vessels inspected by him as well as all fees collected by him, which shall form a fund for the support of quarantine.

SEC. 28. The resident physician shall have the power, and it shall be his duty, to detain at the quarantine ground, with their cargoes, crews, and passengers, all vessels coming from an infected district, or in a foul condition, or having on board persons affected with cholera, yellow fever, pestilential, contagious, or infectious diseases, during such time as the board of health may deem necessary; to compel the captain to land the sick at the quarantine ground, to fumigate and cleanse all such vessels, and to submit to such rules and regulations as may be hereafter provided by the board of health, and that all costs incurred for vessels found in a foul condition, including the sum of five dollars for the support of each and every sick person landed at the quarantine station, shall be borne by the captain and owners, and shall be paid to the resident physician, before a certificate shall be issued giving free pratique.

SEC. 29. The resident physician shall have such other powers as may be delegated to him by the board of health, not contrary to the provisions of the acts of the legislature of the State of Louisiana, necessary to carry them into effect. It shall be his duty to remain at the quarantine ground, attend the sick, and perform all such other duties as may be required of him by the board of health.

SEC. 30. The resident physician shall have power, at his discretion, to grant permits to persons acclimated and healthy to proceed to the city. He shall employ such means of purification, disinfection, and fumigation of vessels as may be directed by the board of health, and shall require the captains or owners of said vessels to defray the costs of inspection, purification, disinfection, and fumigation, and the resident quarantine physician shall not release the vessel from quarantine until said costs are paid.

SEC. 31. Vessels out ten days from infected ports, presenting clean bills of health, not having nor having had sickness on board and which are not in foul condition, shall be permitted to pass to the city after thorough fumigation by disinfecting agents; to effect which purpose the resident physician shall detain said vessels as long as the board of health may deem necessary. The resident physician shall, in all such cases, require evidence under oath; and he shall, by this act, be invested with the power to administer oaths whenever he may deem this necessary to attain the objects of quarantine.

SEC. 32. It shall be the duty of the quarantine physicians, at their respective stations, to enter upon suitable books, furnished by the board of health, the following facts with reference to the vessels inspected:

- 1st. Name of vessel.
- 2d. Name of captain.
- 3d. Tonnage or class of vessel.
- 4th. Port from whence the vessel sailed.

- 5th. Length of passage.
 - 6th. Date of sailing.
 - 7th. Date of arrival at quarantine station.
 - 8th. Number of days detained.
 - 9th. Sanitary condition of vessel.
 - 10th. Number of cases of disease occurring during the voyage.
 - 11th. Number of deaths occurring during the voyage.
 - 12th. Number of cases occurring at quarantine station.
 - 13th. Number of deaths occurring at quarantine station.
 - 14th. Number and character of fumigations.
 - 15th. Sanitary measures instituted.
 - 16th. Number of officers.
 - 17th. Number of crew.
 - 18th. Number of passengers.
 - 19th. Sanitary condition of crew.
 - 20th. Sanitary condition of passengers.
 - 21st. Nature of cargo.
 - 22d. Name of consignee.
- Said books to be carefully preserved at the different quarantine stations.

Sec. 33. It shall be the duty of the resident physicians at the different quarantine stations to prepare for the use of the board of health an annual report, in which the statistics recorded in the books specified shall be consolidated and arranged in accordance with the months of the year.

By order of the board of health:

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

RIVER AND RAILROAD INSPECTIONS.

Dr. C. A. Rice, supervisor of inspectors, New Orleans, reports as follows, June 14, 1880:

The record of river inspection at this port for the week ending the above date shows that there have been inspected 9 steamboats, 1 tow-boat, 7 barges. The barges are scattered all along the river and across the river at Algiers, necessitating sometimes several hours in the inspection of a single barge, and traveling over ten or fifteen miles of street railway to accomplish the same. When the tow is made up it is ready to depart.

The necessary instruction has been given where there was any uncleanly condition, and in every instance such instructions have been well received and carried out as far as possible. We shall soon be able to report a much higher standard of cleanliness upon the Mississippi River boats than ever existed before. Since the establishment of the service the shipment of a certain class of goods has been entirely suspended: this includes rags, paper stock, second-hand textile fabrics, clothing, bedding, &c., materials calculated to excite suspicion and anxiety, and concerning which it is generally impossible to get a satisfactory sanitary history.

The report from the inspectors of rail service shows that they have closely watched the shipment of goods of all kinds, and that they have found nothing to detain, except 20 boxes of decaying oranges for Memphis, 20 bales of old rags, and 15 bales paper stock for Cincinnati, Ohio.

The inspection of freights we find has already allayed a fast-growing fear among the people of Mississippi and other places north of this. It leaves no ground for suspicion that the fever is prevailing here and that they are kept in ignorance of the facts. It is even a source of satisfaction to this community, and causes them to rest in the secure belief that there is no danger at home. There is at this time every indication of an entire absence of yellow fever.

CHOLERA IN CINCINNATI.

Dr. T. C. Minor, late health officer, and correspondent National Board of Health, writes as follows, under date June 16, 1880:

The local newspapers and telegraph have, no doubt, informed you that cholera cases have been developed here. According to the official statements of the health department, several deaths have occurred this season from sporadic cholera and cholera morbus; this, taken together with the fact that diarrheal diseases, especially cholera infantum, are quite prevalent, has given rise to much alarm among our citizens. It is unquestionably true that the mortality from all causes during last month (May) was unusually large; yet there was nothing in the death returns to indicate any epidemic tendency, if a slight outbreak of measles be excepted. The present month (June) has been marked by an unusually high temperature, and, as a consequence, an increase in the number of deaths from intestinal disorders, notably those incident to childhood. The following tabular statements compiled from past reports will show the present condition of the public health as compared with that of the past. The comparison is made for the week ending June 15, 1880, during which

time 133 deaths were registered, a mortality to population of 1,000 equaling 24.40 per annum; the population being estimated at 280,000.

Corresponding week of—	Deaths.	Annual rate per 1,000 population.
1879.....	95	17.69
1878.....	83	15.46
1877.....	80	14.90
1876.....	135	25.14
1875.....	88	16.38
1874.....	114	21.23

It will be seen from this statement that the present high rate of mortality has only been exceeded once in the past six years—i. e., in 1876.

The mortality reported from diarrheal diseases enumerated during the same period of time may be arranged as follows (week ending June 15, 1880, deaths from diarrheal diseases numbered 33):

Corresponding week of—	Diarrheal diseases.
1879.....	6
1878.....	3
1877.....	3
1876.....	24
1875.....	3
1874.....	3

Under the head of diarrheal diseases only diarrhoea, dysentery, cholera infantum, cholera morbus, and sporadic cholera have heretofore been classed. Whether the present health board follow the same rule could only be ascertained by reference, not to the registration books, but to the original death certificates on file in the office. If the regular plan has been followed, certainly this is a bad showing and well calculated to arouse apprehension that the sanitary condition of the city is not as good as it might be. So far as regards the few cases of cholera morbus and sporadic cholera reported there is nothing to excite alarm; such cases are reported every year at this season. Three fatal cases of cholera morbus were reported, for instance, for the corresponding week in 1876, against two for the week just ended. Cases of sporadic cholera have been recorded every summer for a series of years without causing the least alarm heretofore. Five deaths from cholera and twenty-five from cholera morbus were registered during the warm months of last year, 1879, and created no public excitement. Any of these cases of cholera morbus during the times of epidemic would have been regarded as true types of the disease and returned as cholera. In conclusion, it may be well to state positively that cholera is not epidemic in Cincinnati, all reports to the contrary notwithstanding.

REPORT OF QUARANTINE AT PHILADELPHIA.

Under date of June 22, Dr. W. T. Robinson, lazaretto physician, sends the following list of vessels detained at quarantine during the week ending June 21:

JUNE 15.—Brig *Shasta*, 10 days from Cardenas, Cuba; condition good; one man sent to hospital; vessel discharged from quarantine.

JUNE 17.—No bill of health.

JUNE 20.—Schooner *Lillian*, 17 days from Pointe à Pitre, Guadeloupe; condition bad; has bill of health; detained for fumigation.

JUNE 20.—Schooner *F. R. Baird*, 10 days from Charleston; no bill of health; condition good; left one man in hospital.

Dr. Robinson reports that bills of health from Pointe à Pitre are not clean. Yellow fever prevails there, and 9 deaths are reported from May 19 to June 3, when the schooner *Lillian* left that port.

ABSTRACTS FROM CONSULAR REPORTS.

CHARLOTTE TOWN, PRINCE EDWARD ISLAND.—United States Consul D. M. Dunn reports the arrival, June 10, of the schooner *Wistaway*, 25 days from Demerara, with two cases of yellow fever on board. They were at once removed to hospital and the vessel was fumigated. The health officer does not apprehend any extension of the disease.

GUADALOUPE, WEST INDIES.—Under date of May 24, United States Consul Charles Bartlett reports from Point-à-Pitre the existence of yellow fever at that port. Of the six fatal cases, four occurred on board of a Norwegian bark; no cases had appeared on any American vessel, and the disease was not epidemic in the port. Clean bills of health were, however, no longer issued, the last one having been given May 19 to the brig *Thomas Tarull*, bound to New Haven, Conn.

The report for the week ending May 29 shows three deaths from yellow fever, but the number of cases was not known. The troops have been removed to a camp in the mountain region of the island.

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING JUNE 12, 1880.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Croup.	Diarrhoeal diseases.	Diphtheria.	FEVER.					Lung diseases, acute.	Measles.	Poverty diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents.
										Euteric.	Malarial.	Scarlet.	Yellow.								
Me.	Portland.	36,400	12	11	15.7							1									
N. H.	Concord.	14,000		1	3.7																
Mass.	Boston.	375,000	39	10	19.2	28	1	3	11	2	1			7							
	Cambridge.	50,400		3	22	1	1	1						4							
	New Bedford.	27,000		9	17.3																
	Newburyport.	13,800	12	5	18.9	1															
	Marblehead.	7,500		1	16																
	Plymouth.	6,500		1	16																
	Lawrence.	40,000	6	16	26.8	4								1	1						
	Worcester.	52,000	7	10	19.0	3			1												
	Lowell.	54,000	11	28	27.0	10								3					1	2	
	Lynn.	27,000	4	6	8.8				1												
	Brockton.	13,000		4																	
	Fall River.	48,500	6	14	13.0	1								2							
	Holyoke.	20,000	1	7	18.2										1	1					
	Milford.	10,000		3	14.2																
	Chicopee.	11,000	1	3	14.2																
	Somerville.	23,500	1	3	6.6					1									1		
	Springfield.	31,500	1	7	11.6	1			3										3		
	Pitchburg.	12,600		3	12.4																
R. I.	Providence.	103,000	6	30	22.2	8							2			1					
Conn.	New Haven.	60,000	8	16	33.9	3	1	1	1	1		1		1							
	New Britain.	12,000	1	4	17.3					1	1	1			1						
Vt.	Burlington.	16,500		4	12.6			1													
N. Y.	New York.	1,100,820	211	470	22.5	5	1	5	9	2	3	8	9	30	9	2	6		3	115	20
	Brooklyn.	364,448	81	197	18.2	27	4	21	13	1		3		21	3	20			1	50	7
	Yonkers.	20,000	1	5	13.0	2													1		
	Poughkeepsie.	21,000	2	4	9.9															1	
	Newburgh.	17,000		1	2.9			1													
	Utica.	35,000	1	1	1.5																
	Sing Sing.	7,500	1	6	11.7			1				2									
	Buffalo.	170,000	11	28	8.6				1			1	2	3					7	1	
	Seneca Falls.	6,300		5	21.8																
	Watertown.	12,000	2	5	21.7																
N. J.	Hudson County.	269,000	37	70	13.7	11	2	8	3			3		6		1			18	7	
	Newark.	125,000	14	39	16.2	1			2			2		3					1		
	Orange.	12,000		8	8.7																
	Plainfield.	8,000		1																	
Pa.	Philadelphia.	301,380	106	285	16.5	30	5	15	6	9		6		9	1	2	3	1		8	
	Eric.	30,000	3	7	12.1	1			1	2											
	Pittsburgh.	150,000	26	61	21.2	4			3					5		1	3		3	12	3
Md.	Baltimore.	100,000	134	21	21.2	15			12	2	1					1			84	3	
District of Columbia.		170,000	50	105	22.2	6	1	24			3	2		9					35	3	
Va.	Norfolk.	26,200	7	14	27.8			2	1										5	1	
	Richmond.	80,000	25	51	33.2	10		9				2		3					11	2	
N. C.	Charlotte.	17,000	2	6	18.4			1													
	Wilmington.	17,000	1	6	18.4																
S. C.	Charleston.	57,000	23	38	31.7	6		1		1											
	Augusta.	27,000	7	11	21.2	1			5			1									
Ga.	Atlanta.	110,000	10	21	54.3	3							2	1							
	Rome.	5,000	1	3	31.3															1	
Fla.	Jacksonville.	12,000	1	4	17.3	1			1						1						
Ala.	Selma.	7,070	5	6	14.2				1												
Miss.	Memphis.	15,000	1	1	13.9					1		1									
La.	New Orleans.	210,000	90	166	11.2	25	1	25	1	2	11	2		6					5		
	Shreveport.	16,000	3	4	21.9			1													
Tex.	Austin.	9,500	3	5	16.3					1											
	San Antonio.	23,000	7	13	29.1	1						2							6	1	
	Brownsville.	5,500	1	3	26.4			1													
	Waco.	11,000		4	18.9									4							
Ark.	Little Rock.	22,000	2	4	9.5	1			1												
Tenn.	Nashville.	100,000	10	20	11			8						1					4	12	
	Chattanooga.	32,800	3	9	26.4															2	
	Clarksville.	6,000	1	1	8.7																
Ky.	Louisville.	175,000	19	84	24.7	9		11		2				3	1				5	9	
W. Va.	Wheeling.	20,500	6	10	17.7	1									1						
Ohio.	Cincinnati.	120,000	24	13	21.4	1		36						11	8				1	50	
	Cleveland.	175,000		57	17.0	3			5	7		1	8	3		3				6	
	Dayton.	39,000	10	15	20.0				5	1									9	2	
	Gallipolis.	5,500	1	1	9.5				1												
Ind.	Evansville.	10,000	5	12	11									2	1				1		
	Indianapolis.	100,000	19	25	13.0	1	1	5	1					4					1	7	
	J. flettsville.	10,500	3	6	29.8			2		1										1	
	Richmond.	14,000		1	3.7																
Ill.	Chicago.	300,000	90	182	19.0	15	6	11	14	1		11		16	2	1			1	50	9
	Peoria.	10,000	9	9	11.7																
	Aurora.	14,500		2	7.1	1															
	Elgin.	8,500		1	6.1										1						
	Moline.	8,500		2	13.2	1															
	Eastonville.	15,000	1	1	13.9							1									
Wis.	Milwaukee.	127,000	26	50	20.5			2				3		3	1	1			11	3	
	Beloit.	5,000		2	20.8																
Minn.	Saint Paul.	30,000	4	10	16.7	3															
Iowa.	Burlington.	26,000	3	3	6.0					1											
	Dubuque.	30,000		2	7.4																
	Keokuk.	15,800	2	2	6.6				1												
Mo.	Saint Louis.	260,000	104	161	16.8	15		37	1	1	3	2		5	1	2			6	30	4
Neb.	Omaha.	25,000	2	6	10.4							1									
Utah.	Salt Lake City.	25,000	2	10	20.8				2					2					3		

REPORT OF MORTALITY IN CITIES OF THE UNITED STATES FOR THE WEEK ENDING JUNE 12, 1880—Continued.

CITIES IN WHICH BURIAL PERMITS ARE REQUIRED.

States and cities.		Population.	Deaths under 5 years.	Total number of deaths.	Representing an annual death-rate per 1,000 of—	Consumption.	Group.	Diarrheal diseases.	Diphtheria.	FEVER.				Lung diseases, acute.	Measles.	Puerperal diseases.	Small-pox.	Whooping-cough.	All zymotic diseases.	Accidents.
										Enteric.	Malarial.	Scarlet.	Yellow.							
Cal.....	San Francisco.....	305,000	21	63	10.8	11	.....	7	1	1	.....	.....	.....	8	.....	.....	.....	.....	.....	.....
.....	Sacramento.....	25,000	1	3	6.2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
.....	Los Angeles.....	14,000	1	4	14.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	Vallejo.....	7,500	1	1	6.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....		8,322,410	1,449	3,125	19.6	371	38	403	92	43	41	73	.....	239	37	47	3	47	626	102

NOTE.—Boston has 350,000 white, 5,000 colored; deaths, 134 white, 4 colored. Rate per 1,000, white 18.8, colored 41.7. Providence has 99,200 white, 3,800 colored; deaths, 28 white, 2 colored. Rate per 1,000, white 14.7, colored 27.4. Sing Sing has 7,550 white, 250 colored; deaths, 5 white, 1 colored. Rate per 1,000, white 35.9, colored 28.7. Baltimore has 345,715 white, 26,285 colored; deaths, 169 white, 42 colored. Rate per 1,000, white 25.4, colored 38.9. District of Columbia has 114,900 white, 56,000 colored; deaths, 52 white, 53 colored. Rate per 1,000, white 23.8, colored 49.7. Norfolk has 14,900 white, 11,300 colored; deaths, 5 white, 9 colored. Rate per 1,000, white 17.5, colored 41.5. Richmond has 46,000 white, 24,000 colored; deaths, 21 white, 20 colored. Rate per 1,000, white 34.0, colored 30.7. Lynchburg has 10,000 white, 11,000 colored; deaths, 2 white, 5 colored. Rate per 1,000, white 10.4, colored 23.7. Wilmington has 6,714 white, 10,280 colored; deaths, 2 white, 4 colored. Rate per 1,000, white 15.5, colored 20.2. Charleston has 25,000 white, 22,000 colored; deaths, 15 white, 23 colored. Rate per 1,000, white 31.3, colored 37.5. Augusta has 16,176 white, 10,824 colored; deaths, 7 white, 4 colored. Rate per 1,000, white 22.5, colored 19.2. Atlanta has 25,373 white, 16,175 colored; deaths, 8 white, 16 colored. Rate per 1,000, white 16.4, colored 51.6. Jacksonville, Fla., has 7,000 white, 5,000 colored; deaths, 1 white, 3 colored. Rate per 1,000, white 7.4, colored 31.3. Selma has 3,082 white, 2,368 colored; deaths, 3 white, 3 colored. Rate per 1,000, white 30.7, colored 45.5. Shreveport has 4,300 white, 3,800 colored; deaths, 4 white, 4 colored. Rate in table. Austin has 12,000 white, 1,000 colored; deaths, 3 white, 2 colored. Rate per 1,000, white 13.0, colored 26.0. Nashville has 26,000 white, 11,000 colored; deaths, 10 white, 10 colored. Rate per 1,000, white 20.0, colored 17.4. Chattanooga has 7,660 white, 5,020 colored; deaths, 5 white, 4 colored. Rate per 1,000, white 33.1, colored 11.5. Louisville has 153,125 white, 21,875 colored; deaths, 65 white, 18 colored. Rate per 1,000, white 22.1, colored 42.9. Jacksonville, Ill., has 14,560 white, 500 colored; deaths, 2 white, 1 colored. Rate per 1,000, white 10.8, colored 101.3. Total white population, 1,161,395; total deaths, 666; annual rate per 1,000, 23.7. Total colored population, 358,303; total deaths, 256; annual rate per 1,000, 40.1.

The following reports, for the week ending June 12, are from places requiring burial permits and having less than 5,000 population:

Bridgewater, Mass., 4,000; one death. Brunswick, Ga., 4,000; deaths, 2; under 5 years, 1; pneumonia 1; diarrhea 1. East Haven, Conn., 1,200; no deaths. Edgartown, Mass., 1,000; no deaths. Fairfield, Conn., 4,000; no deaths. Morgan City, La., 2,500; no deaths. Murfreesboro, Tenn., 3,500; deaths, 3; under 5 years, 1; consumption 1; diarrhea 1. Saint Augustine, Fla., 2,500; deaths, 2; consumption 1. Shelbyville, Tenn., 2,000; consumption 1. Total population, 25,100; deaths under 5 years, 2; total deaths, 9; annual rate per 1,000, 15.7.

The following reports, for the week ending June 12, are from places in which burial permits are not required:

Alexandria, Va., 13,000; deaths, 4; under 5 years, 1; diarrhea 1, old age 1. Allegheny, Pa., 75,000; deaths, 22; under 5 years, 9; consumption 1, diarrhea 6, enteric fever 1, pneumonia 1, puerperal fever 1. Batesville, Miss., 700; no deaths. Bath, Me., 5,000; no deaths. Boulder, Colo., 2,500; no deaths. Brattleborough, Vt., 6,500; consumption 1. Calais, Me., 7,000; deaths, 2; consumption 1. Cambridge, N. Y., 1,500; consumption 1. Carrollton, Miss., 600; no deaths. Circleville, Ohio, 6,000; two deaths. Clinton, Mich., 1,200; consumption 2. Columbus, Ga., 10,000; deaths, 4; under 5 years, 2. Corinth, Miss., 2,300; diarrhea 1, under 5 years, 1. Crystal Springs, Miss., 1,000; no deaths in last two weeks. Cumberland, Md., 12,000; deaths, 7; under 5 years, 1; consumption 3. Dallas, Tex., 20,000; deaths, 7; under 5 years, 3; consumption 1, diarrhea 1, enteric fever 1, malarial fever 1, whooping-cough 1. Decatur, Miss., 1,000; no deaths. East Saginaw, Mich., 18,000; deaths, 6; under 5 years, 1; diphtheria 2, consumption 1. Fayette, Miss., 300; no deaths. Helena, Mont., 3,500; consumption 1. Huntington, Pa., 1,500; lung disease 1, under 5 years, 1. Indianola, Tex., 900; no deaths. Inka, Miss., 1,000; one death, infant. Jefferson, Tex., 3,000; deaths, 2; consumption 1, puerperal 1. Kenosha, Wis., 5,000; pneumonia 1. Lansingburgh, N. Y., 7,500; consumption 2. Lebanon, Pa., 9,000; no deaths. Louisiana, Mo., 5,200; deaths, 3; consumption 1, old age 1. Madison, Ind., 12,000; deaths, 4; under 5 years, 1; scarlet fever 1, old age 1. Martinsburg, W. Va., 6,000; deaths, 1; under 5 years, 1; consumption 2, enteric fever 1. Millersville, Ga., 4,000; two deaths. Mount Pleasant, Iowa, 5,000; deaths, 2; under 5 years, 1; old age 1. Muscatine, Iowa, 7,500; deaths, 3; under 5 years, 1; consumption 1, diarrhea 1, malarial fever 1. Muskegon, Mich., 13,000; deaths, 4; under 5 years, 1; group 1, puerperal 1. Natchez, Miss., 10,000; two deaths. Nebraska City, Neb., 5,000; consumption 1. Ocala, Fla., 1,000; no deaths. Oshkosh, Wis., 18,000; deaths, 4; under 5 years, 3; consumption 1, group 1, diarrhea 1. Painesville, Ohio, 5,000; one death. Pearlinton, Miss., 1,500; no deaths. Peekskill, N. Y., 6,000; no deaths. Phoenixville, Pa., 6,000; one death, under 5 years. Pleasant Hill, Miss., 250; consumption 1.

Port Gibson, Miss., 1,400; consumption 1. Port Jervis, N. Y., 10,000; deaths, 2; under 5 years, 1; consumption 1, pneumonia 1. Pulaski, Tenn., 2,100; one death. Raymond, Miss., 700; no deaths. Ripley, Miss., 1,200; consumption 1. Rock Island, Ill., two deaths; no population given. Rockland, Me., 7,000; deaths, 2; under 5 years, 1; consumption 1, measles 1. Springfield, Ohio, 23,000; deaths, 6; consumption 1, diarrhea 1, scarlet fever 1. Starkville, Miss., 1,454; one death. Steubenville, Ohio, 13,500; deaths, 2; under 5 years, 1. Tampa, Fla., 1,200; one death. Titusville, Pa., 9,000; measles 3. Tuscaloosa, Ala., 4,000; deaths, 2, under 5 years; enteric fever 1. Wesson, Miss., 2,000; no deaths. Winchester, Va., 5,500; two deaths. Youngstown, Ohio, 17,000; no deaths. Total population, 428,904; deaths under 5 years, 37; total deaths, 123; annual rate per 1,000, 14.3.

REPORTS OF CORRESPONDENTS OF THE NATIONAL BOARD OF HEALTH.

AMSTERDAM, N. Y.—Dr. S. H. French, in forwarding a report of mortality for the month of May, observes that diphtheria had prevailed in the town and vicinity for nearly four years. The disease has subsided within the last three months, and now seems to be almost extinct. A mild epidemic of scarlet fever now prevails.

CLEVELAND, OHIO.—Under date of June 18, Dr. W. H. Farrand reports five cases of small-pox in the city, brought by a family of Bohemian emigrants who arrived from New York about the 6th of June.

HAVANA, CUBA.—Reports for the week ending June 15 show 30 deaths from yellow fever and 19 from small pox for the week.

KNOXVILLE, TENN.—Dr. Tadlock, president of the board of health, reports that during the month of May various forms of gastro-enteric diseases prevailed throughout East Tennessee, causing in Knoxville nearly one-half of the deaths. Cholera morbus, cholera infantum, diarrhea, and dysentery, were all more or less common, and the tendency to such diseases was observed among people in every condition of life, and in the country as well as in towns. No satisfactory reason has yet been assigned for the general prevalence of these diseases.

MEMPHIS, TENN.—Dr. R. W. Mitchell, under date of June 10, incloses extracts from the papers of Memphis and New Orleans, referring favorably to the system of river inspection established by the National Board of Health, with the co-operation of the State boards, which have adopted the rules and regulations proposed by the former. Dr. C. A. Rice, with a corps of five inspectors, is stationed at New Orleans.

MINSTER, OHIO.—Under date of June 9, Dr. E. F. Wells gives a most favorable report of the sanitary condition of this town. Only two deaths occurred during the month of May; one from pneumonia, and one from scarlet fever, imported from Cincinnati. Diarrheal diseases and malarial fevers are the prevailing disorders.

[illegible]

MORTALITY IN FOREIGN CITIES, COMPILED FROM WEEKLY CONSULAR REPORTS TO NATIONAL BOARD OF HEALTH.

Countries.	Places.	Population.	Week ending—	Total deaths.	Annual rate per 1,000.	Cholera.		Yellow fever.		Small-pox.		Typhoid fever.		Typhus fever.		Other contagious diseases.		Weekly mean of thermometer.
						Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Vancouver's Island.	Victoria	5,000	June 5	2	20.9													58
Prince Edw'd Isl'd.	Charlottetown	12,000	June 12	2	7.0													54.8
Canada	Kingston	15,000	June 12	3	9.8													65.1
Bermuda	Hamilton	14,807	June 15	2	7.0													75.7
Cuba	Havana	195,437	June 5	166	44.3					17	16	4						81
Do.	do	195,437	June 12	183	48.9					25	13	3						80
Haiti	Port au Prince	30,000	May 26	29	50.4													86
Do.	do	30,000	June 2	24	41.7													87
Do.	Aux Cayes	8,000	May 24	6	39.1													66.5
Do.	do	8,000	May 29	4	26.1													77
Guadaloupe	Point a Pitre	22,919	May 22	12	27.3			15	6									
Do.	do	22,919	May 29	8	18.2			8										
Antigua	Antigua	3,000	May 29	10	173.9													
Do.	do	3,000	June 5	10	173.9													82
Ireland	Queenstown	7	June 5	7	25.3													
Do.	Belfast	230,000	June 5	116	33.1					2		26	2			15	1	51.3
Do.	Dublin	314,666	June 5	27	25.9					18		4				32	3	52.1
Scotland	Dumfries	155,100	May 29	64	21.5							3		1		23	1	52.1
Do.	Leith	58,479	June 5	18	16.0													52.2
Do.	Glasgow	389,598	May 29	263	23.2							13				33	3	51.3
England	London	3,254,200	May 29	1,322	19.0					10						185	1	
Do.	Bristol and Clifton	213,500	May 29	100	24.4							2				15	3	53.8
Do.	Newcastle	148,000	May 29	68	23.7							1				3	2	52
Do.	Sheffield	304,938	June 5	113	19.3													49.3
Do.	Leeds	313,929	May 29	101	16.5													
Do.	Tunstaff	201	May 29	61	19.0	1						1				5	4	49
Wales	Cardiff	82,364	June 5	39	24.5												7	53
France	Paris	1,988,806	May 27	1,174	30.8					67		51				127	1	52
Do.	Havre	92,068	May 29	35	31.2							1						
Do.	Lyons	342,815	May 13	182	27.9					11		1					9	
Do.	do	342,815	May 22	174	26.5					3		1					6	
Do.	Rouen	104,302	May 29	53	26.4					3								
Do.	do	104,302	June 5	65	32.3													
Switzerland	Geneva	234,077	May 29	20	26.9													
Do.	Zurich	23,103	June 5	6	14.2												1	
Holland	Amsterdam	316,952	May 29	150	24.7							2	1			32	6	59
Do.	Rotterdam	150,378	June 5	66	22.9					1								
Germany	Breslau	376,000	May 29	156	29.4							4				13	48	
Do.	Berlin	1,087,500	May 22	581	27.4							12	1			326	72	50
Do.	Braunswick	74,000	May 29	44	30.9							1		2			4	
Do.	Barmen	95,000	May 29	63	34.5												11	57
Do.	Leipzig	154,113	May 13	113	24.1												13	
Do.	Stuttgart	106,300	May 29	75	26.8												7	
Do.	Mannheim	50,500	May 31	25	35.8													65
Belgium	Brussels	406,628	May 22	139	17.8					3	1	5	1			17	6	58
Do.	do	406,628	May 29	182	23.1					5	2					16	8	63
Saxony	Chemnitz	90,017	May 22	71	38.9												6	59
Do.	Dresden	218,000	May 22	116	27.8												14	48
Denmark	Copenhagen	255,254	May 25	123	27.2					1		12	2			9	4	48
Italy	Leghorn	97,063	June 5	47	25.1													66
Austria	Vienna	246,212	May 29	142	27.2							11					15	65
Do.	Trieste	128,223	May 22	75	30.5	2				2		2						
Hungary	Buda-Pesth	333,551	May 22	279	44.0					5			2				4	
Russia	St. Petersburg	1,150,000	May 15	759	29.4							155						
Russian Poland	Warsaw	357,100	May 22	191	29.9													46
Sweden	Stockholm	169,429	May 22	85	27.4								1				13	42
Norway	Christiania	116,801	May 22	40	17.8	2						2				6	3	45
Spain	Alicante	34,926	May 29	25	37.3							1						
Do.	Valencia	65,928	May 29	42	33.7													
Do.	Seville	138,000	May 23	39	22.3					1				2			4	66
Do.	do	138,000	May 30	64	24.2					1		1					6	72
Monrovia	Casablanca	6,000	May 1	3	26.1													72
Do.	do	6,000	May 8	4	33.3													75
Do.	do	6,000	May 15	7	45.5													70
Do.	do	6,000	May 22	4	33.8													68
Cape Colony	Cape Town	35,000	May 10	26	38.8													72

NOTICE.—In filling the reports on the postal cards for cities and hospitals, the figures are frequently so placed between the lines as to leave the disease intended entirely uncertain, except in cases where the judgment of the compiler may enable him to determine which is meant. This may be avoided by a stroke of the pen after the disease to be recorded. The total numbers should be placed in their proper columns, and no figures placed immediately after the word *total* will be noted in the tables. Those who report *still-births* will please note them separately, as they are not included in the tables of mortality in the BULLETIN.

NOTICE.—The populations of cities of the United States adopted in the tables of the BULLETIN are those furnished by the city authorities to the National Board of Health. They differ in some cases from the figures given in mortality reports.

NOTICE.—All official communications to the National Board of Health should be addressed to the *Secretary* of the Board, Dr. T. J. Turner, U. S. N. Correspondents and others whose writing may be for publication are reminded that much inconvenience is caused by writing on both sides of the paper.



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